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30th Congress, 1st Session. | [SENATE.] | Executive No. [illegible]

REPORT

OF

THE SECRETARY OF WAR,

COMMUNICATING, IN

Answer to a resolution of the Senate, a report and map of the examination of New Mexico, made by Lieutenant J. W. Abert, of the topographical corps.

February 10, 1848.—Ordered, that the report and map be printed, and that 2,000 copies, in addition to the usual number, be printed for the use of the Senate.

War Department,
Washington, February 4, 1848.

Sir: In compliance with a resolution of the Senate, of the 18th ultimo, requiring the Secretary of War "to furnish the Senate with the report and map of the examination of New Mexico, made by Lieutenant J. W. Abert, corps of topographical engineers, while attached to the command of General Kearny," I have the honor to transmit herewith a communication from the colonel of the corps of topographical engineers, with copies of the report and map defined.

Very respectfully, your obedient servant,

W. L. MARCY,
Secretary of War.

Hon. Geo. M. Dallas,
President of the Senate.

Bureau of Topographical Engineers,
Washington, February 4, 1848.

Sir: In obedience to a resolution of the Senate, of the 18th ultimo, I have the honor to submit a copy of "the report and map of the examination of New Mexico, made by Lieutenant J. W. Abert, of the corps of topographical engineers, while attached to the command of General Kearny."

It will be perceived that the map is a printed copy. The map being completed last summer, it was printed by order of the War Department for the use of the army, and as the stone upon which it was engraved was preserved, the re-publication of the map will involve no additional expense, except for as much as the printing and paper will cost, which will be $3 50 per 100 copies.

There are twenty-three drawings and sketches belonging to the report, and essential to a proper understanding of it, which are not sent with the report, as it was not in the power of the office to have the copies made in time; but they will be ready for the engraver. They have been examined, and the artist, Mr. Graham, who engraved the map, states that he will do all of these sketches for 200 dollars. He will also furnish the paper, and print 100 copies of the whole for $14 50.

The expense, therefore, for an edition of 1,000 copies will be—

For engraving	$200
" 1,000 copies of the map	35
" 1,000 copies of all the other drawings and sketches	145
Total	$380

Or for an edition of $2,000 copies, the total expense will be $560.

It is possible that the map may require about ten dollars worth of additional work. In this case an edition of

1,000 copies of the whole will cost	$390
2,000 copies do do do	570

Or the cost of an edition of any number may be ascertained by taking 210 dollars as the maximum cost of engraving, and adding thereto 180 dollars for every thousand copies.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Colonel, Corps Topographical Engineers.

Hon. W. L. Marcy,
Secretary of War.

REPORT OF LIEUT. J. W. ABERT,

OF HIS

EXAMINATION OF NEW MEXICO,

IN THE YEARS 1846-'47.

To Colonel J. J. Abert,
Chief of the corps of topographical engineers:

We left Fort Leavenworth on the 27th June, 1846, under the command of General Kearny; as the events of the march of the army were recorded by Major Emory, I shall not touch upon them. On the 22d of July I was taken ill, to such a degree that it was necessary to carry me in a wagon from that time until the 30th of July, on which day we arrived at Bent's fort. At this time my disease had obtained such an influence over my senses, that days and nights were passed in delirium, and a mental struggle to ascertain whether the impressions my mind received were true or false. Even my sight was affected, and when I gazed on Bent's fort, the buildings seemed completely metamorphosed; new towers had been erected, the walls heightened, and, as I then thought, everything put in readiness to resist an attack of the New Mexicans. The army under General Kearny marched on to Santa Fé, while I was left, harrassed with the thoughts of having come thus far, and having been stopped just as I was entering upon a field full of interest to the soldier, the archeologist, the historian, and the naturalist.

On the 26th of August, I had recovered sufficiently to resume my diary; this, with a copy of Horace, a Greek testament, and my sketch book, served to make the hours of confinement pass pleasantly.

It was on the 26th of August that we first heard of the capitulation of Santa Fé; General Kearny had entered the city without meeting any opposition, except pompous threats from his excellency Don Manuel Armijo. Mexican officers met our army at "El Rio Moro," others at "Las Vegas," but our bold soldiers heeded not the messages or letters which they brought, and our general is said to have replied in these words: "Tell your commander that I shall meet him in Santa Fé on the 18th day of August; if he wishes to be friendly, I am ready to meet him as his friend; if he wishes otherwise, I am ready to meet him as his foe."

The cool determination of our brave army seemed to have completely overawed the enemy; he first yielded his position at the "cañon," near "Vegas," and fell back to a more formidable pass, which lies fifteen miles east of Santa Fé. At this place the road leads alongside of a torrent shut in closely by rugged rocks that beetle overhead; such a pass that a few bold men could there hold an army at defiance.

Armijo, knowing the advantages of this place, threw up breastworks on the crest of cliffs on both sides of the cañon, filled them with armed men, who also collected piles of huge fragments of rock to hurl down upon the heads of us heretics. He also stationed some pieces of artillery, so as to have a sweeping fire along the road, enclosing them by an "abattis" constructed of the trunks of the cedar, and often whole trees, with the ends of the limbs sharpened and pointed outward, offering an impenetrable barrier to a cavalry charge. As our army approached Armijo retreated, "huyeron cobardmente los que juraron morir ó vencer," and General Kearny entered Santa Fé on the 18th day of August.

This joyful news made me the more anxious to hurry on to Santa Fé; but my recovery was extremely slow, as my sickness had been so prolonged. Seeing that I took an interest in the natural history of the country, the gentlemen of the fort would daily visit my room, bringing rare plants and minerals; and I also succeeded in enlisting the services of several Cheyenne Indians, who were lounging about the trading post. On the 26th August, a commissary train of 42 wagons arrived. The teamsters refused to go beyond this place, as their articles of agreement did not require them to go further. During the day, Mr. Nourse, of Washington, who had remained with me ever since I had been sick, kindly procured me some ornithological specimens; among these were the killdeer plover, charadrius vociferous, the dove, ectopistes carolinensis. The men in their leisure moments amused themselves with fishing. Cat fish and hickory shad are the only kinds I have ever seen in these waters; and we found them very palatable, although they may not be compared with the white fish of Lake Superior or the rock fish of the Potomac. To-day, Captain Walker, so famous for his adventures in California, paid us a visit. He has a party encamped on the banks of the river about 8 miles north of the fort, and is there awaiting the arrival of Colonel Price's regiment, for which he has a supply of mules. As the antelope and deer were quite abundant in the vicinity of his camp, Mr. Marcellus St. Vrain went off with him, intending to spend a week in hunting, and obtain relief from the close confinement of the fort.

Thursday, August 27.—Anxious to arrange all my preparations in good time, I set about purchasing mules, and bought some very good looking ones, but they were not yet broken to the draught. I had them harnessed, and got Pilka, an old voyageur, to drive them. He was one of those hardy men who had become inured to all kinds of difficulty in the service of the American Fur Company, and, having often been placed by necessity in emergencies which called forth all the resources of his ingenuity, had acquired a facility of doing well everything that he undertook. Such men know the necessity of discipline; are ever ready in time of danger, and never allow their courage to be damped, or their cheerfulness clouded by the difficulties with which they may be surrounded.

Although he had never driven before, yet he at once threw himself into the saddle of the wheel mule and took the reins. Twice the mules ran off with the wagon, and, notwithstanding Pilka was obliged to throw himself out of the saddle, he at length succeeded in subduing them. I had now recovered my health sufficiently to walk down a flight of steps unaided, and I rejoiced with great joy to find myself gaining strength so rapidly.

Mr. Holt presented me with a beautful skin of a wild cat, (Felis rufa,) such as is found in the neighborhood. He informed me that the wild cat frequently attacks the oxen, springing upon their backs or chest, and wounding them terribly with its sharp claws. The wounds thus produced are extremely poisonous. Great inflamation and swelling of the injured parts ensue, and often the oxen die, although the wounds may be but skin deep. On the other hand, the wounds made by the wolves heal rapidly, although the ox may have its hams so much torn to pieces that one would think its recovery impossible. Whenever any one of the cattle raised at this place has wandered off, and is attacked by either of the above mentioned beasts of prey, it bellows loudly for help, and the rest of the herd always rush to the rescue. In the winter season the wolves become extremely bold, and will attack any animal they may meet alone upon the prairies, with the exception of man.

On the 28th of August we had an arrival of from 40 to 50 commissary wagons. The teamsters crowded into the "patio," and from thence commenced a minute scrutiny of every object around them, greatly to our annoyance, and unfavorable to their character for politeness. To-day "Nah-co-mense," or "Old Bark," a chief of the Cheyennes, and one of my last year's friends, entered my room. He appeared delighted to meet with me again, and sorry to see me looking so emaciated. After regarding me for a short time in silence, he placed his hand upon his heart and fluttered his fingers rapidly to intimate that my pulse had been beating with the high excitement of fever. As I was glad to meet with him, I treated him to some hard bread and to some molasses and water.

During the morning Captain Walker sent me some fine venison, but what delighted me exceedingly was the promise I received from the hunter who brought it, that he would procure me skins of the three different varieties of ground squirrels that are to be had in this part of the country; also that of the prairie dog; for although the last mentioned animal is well known, yet the skins are rarely to be met with in cabinets of Zoology. When shot with the rifle, the skin is too badly injured to be preserved.

There were some men encamped near the fort who procured 5 or 6 prairie dogs by pouring water into their burrows until the animals were driven out. They soon became perfectly tame, and were carried into the settlement by their owners a few days before I heard of the circumstance.

August 29.—Doctor Hempstead, one of the residents here, made made me a present of a number of minerals which he had collected. He also brought me some specimens of the Myrtinia Proboscidia, and cleome integrifolia. The pods of the first mentioned plant are often used for pickles, and the latter plant is one of the most beautiful that meets the eye of the prairie traveller, covered as it is with rich clusters of pink flowers.

To day a number of Cheyennes visited the fort, amongst them were Old Bark, his son "Ah-mah-nah-co," and Yellow Wolf, "O-cum-who-wast." The latter is a man of considerable influence, of enlarged views, and gifted with more foresight than any other man in his tribe. He frequently talks of the diminishing numbers of his people, and the decrease of the once abundant buffalo. He says that in a few years they will become extinct; and unless the Indians wish to pass away also, they will have to adopt the habits of the white people, using such measures to produce subsistence as will render them independent of the precarious reliance afforded by the game.

He has proposed to the interpreter at Bent's fort, to give him a number of mules, in the proportion of one from every man in the tribe, if he would build them a structure similar to Bent's fort, and instruct them to cultivate the ground, and to raise cattle. He says that for some time his people would not be content to relinquish the delights of the chase, and then the old men and squaws might remain at home cultivating the grounds, and be safely secured in their fort from the depredations of hostile tribes.

The Cheyennes are among the few tribes for whom the United States has not done anything, and they are among the most deserving of assistance. Of late they appear to be getting discontented with such treatment; they say, "we have not robbed or stolen from you, and you take no notice of us, nor do you make us any presents, while you are continually doing benefits to the Pawnees, who both kill and rob your people, and who are our enemies."

They have the reputation of conducting themselves well, of trading liberally, and of committing fewer depredations upon the whites than any other nation. Seventeen years ago they numbered 400 lodges, but they are now reduced to one half that number. Last year they suffered great ravages from the measles and the hooping cough, and what was to them a still greater calamity, they were suffering from hunger, not having seen any buffalo, except now and then a single bull. This year they did not see any droves, from January, when they were hunting in company with Mr. William Bent, at the crosing of the Arkansas, until the early part of this month. As the people of the United States have been, and are, the great cause of the diminution in the quantity of game, by continually travelling through the country, by multiplying roads, and thus destroying the quiet ranges where the animals breed; by killing many of them, and by the immense numbers that they induce the Indians to destroy for their robes, it seems but *fair* that the United States should assist these Cheyennes. At this moment a very beneficial influence might be exerted upon them, as they have their minds now full of this plan of O-cum-who-wast's, of forming permanent habitations, and of living like the whites, by tilling the ground and raising cattle.

The next morning, Sunday, August 30, was a day of rest. The constant repairing of the wagons that were daily coming in from Fort Leavenworth, kept the people here very busy. The ring of the blacksmith's hammer, and the noise from the wagoner's shop were incessant, so we all hailed the day with gladness; those who labored, as a day of repose, those who did not labor, as a day of quiet.

During the day Ah-mah-nah-co paid me a visit, bringing a present of a pair of moccasins, ornamented with porcupine quills, worked into a figure resembling a squaw; this ornament seems peculiar to the Cheyennes. "Nah-moust," or "Big left hand," also came to see me; he is one of the largest Indians of the tribe, measuring 6 feet 2½ inches in height, and is very stout and broad shouldered. He has grown so large that he has been obliged to give up hunting, of which he was fond in his more youthful days, for few Indian horses could sustain his weight through a buffalo chase. He is extremly ingenious, and handles his knife with great skill, and is considered the best arrow-maker in the village. The young men, when going to hunt or to war, call on the skillful "Nah-moust" to obtain their arrows, and his lodge receives, when they return successful, a fair partition of the fruits of the chase, or the spoils of the Indian foray.

August 31.—While walking around and endeavoring to recruit my strength by exercise, I was struck with the countenance of a strange Indian. Upon inquiry I learned that he was called "Mi-ah-tose," and the whites had given him the sobriquet of "slim-face." Not long ago he made a visit to St. Louis, Missouri. It is curious to hear with what close scrutiny he regarded every thing that chanced to meet his eye. Being a man of great influence, and the often chosen partizan of war parties, his companions do not fail to give credit to his narrations, which to them are truly marvellous. The weight of his character, or more probably the fear of his anger, as he is a great warrior, forbids their daring to utter a doubt.

He seems to have been best pleased with the riding and the horses that he saw one evening at a circus. He recollects perfectly every horse that appeared, and gives an account of the colors, marks, and trappings of each one of them, with extraordinary exactness and minuteness of detail. To see the whites ride so well, was to him almost incomprehensible, and was the only superiority that he would admit that the civilized man had derived from his civilization, when compared with his own rude manners of life. He wondered much, too, to see so many people living in one town, so far from any hunting grounds. Wishing one day to ascertain exactly the number of inhabitants, he procured a long square stick, and set himself down on the pavement to note the passers by, cutting a notch in his stick for each one; in a little while his stick had no place left for another notch, and he commenced counting, and counted, and counted, but as the busy stream of the multitude flowed on undiminished, the Indian was obliged to give up his intention, and now threw away the stick that he had at first resolved to take home and show to his people.

Our Indian friends intended leaving here yesterday, but as they get well fed, and have nothing to pay, they are not over anxious to go away.

In the evening I was carried down to the river, and took a bath in the refreshing waters of the Arkansas. Between the fort and the river there is a low piece of ground that was once cultivated, the traces of the "Acequia," by which it was irrigated, are yet visible, but the Indian destroyed everything before the owners could reap the fruits of their labor; hence, although the soil gave great promise of being productive, it has ever since been neglected. This bottom land was now chequered with brilliant masses of color, produced by the groups of plants which were growing in great luxuriance. The golden rod, (S. altissima,) the purp. Eupatorium, (E. purpurea,) the sunflower, silver marged euphorbia, (E. marginata,) and the pink cleome, mingled together, clad in their brightest hues; and the sandy plain that skirted the bottom was varied with the golden gourd, cucumis perenius, and a beautiful species of solanm.

I measured to-day the skin of a panther, felis coucolor, that was 6½ feet in length from the end of the nose to the root of the tail. It had been killed on the Cañadian by the Kioways. I also examined some skins of the grey and white wolves; and, from all I can learn, these animals are one and the same kind, as the grey wolf becomes whiter as it advances in age. Some of the skins were white, some grey, and others in a transition state.

September 1.—I obtained several singular plants, and amongst them a beautiful species of the lobelia; and I had scarce finished my drawings of them, when "Nah-moust" and "Ah-mah-nah-co" knocked at the door of my room. I showed them my port-folio, and got them to give the names of the plants, insects, and animals that they knew. After making a complete inspection of my portfolio, I induced "Ah-mah-nah-co" to sit for me; he willingly complied, and, choosing his attitude, sat perfectly motionless until I had both drawn and painted my sketch. I then showed it to him, whereupon he seemed much pleased, and after regarding it for some time, he desired me to write his name underneath; I commenced and he gave me two names, first, "Nah-moust," and then "Ah-mah-nah-co," which means the bear above. The surname had been bestowed in accordance with an Indian custom, similar to that of the knights of ancient chivalry, who always received a surname after they had done some valiant deed.

Our Indian friends have become completely domiciled here, where they are fed and have every thing they need furnished to them; for if their wishes were not gratified, they would not bring their furs to this place to trade. As food is scarce, the people of the fort are obliged to give them something to eat, and the Indians never fail to be present at meal times.

An old man called "Iase-wo-ne-mox-ist," supplied his family with fish that he caught in a species of dam or trap that he had formed in the river; but some whites passing by had destroyed his trap, and to-day he has been complaining bitterly about their conduct. He is the same man whose portrait I took last year, and is conspicuous on account of his wearing his hair twisted in the form of a large horn, that projects from the centre of his forehead.

Yesterday I met with Captain Walker again; in my conversation he mentioned that the box-elder, "acer negundo," furnishes a sap which is highly saccharine, and when the hunters are in want of sugar, they collect some of the sap of this tree, and by boiling it form a very good molasses, which answers as an excellent substitute.

September 2.—I had been for some time past endeavoring to obtain specimens of the materials that the Indians use to produce those brilliant hues they give to the porcupine quills, with which they garnish their ornamental trappings.

This morning "Old Bark" brought me what I wished, the sumach berries, with which that bright red is produced, and the moss from the pine tree, that yields a yellow tint. The green dye is made from copperas. What looks like black porcupine quills, are either portions of the quills of birds, or the radicles of the "typhis latifolia," which they flatten by pressing between weights. Old Bark had a piece of pitch in his hands; I asked him what he intended to do with it; he answered me that some of his horses had tender hoofs, and that he intended to press the pitch into the sole of the foot, when, after passing a hot stone over the pitch, it would remain and protect the hoof. During the day, one of the Indians brought me a specimen of the "astragalus" and told me that it was so poisonous as to kill any animal that might eat of it. Thinking it would be a good opportunity to learn the uses of the plants I had collected, and medical properties with which the experience of the Indians invested them, I, therefore produced my specimens, and with the assistance of Mr. Smith, who trades for the fort, and who speaks the Cheynne language better, perhaps, than any other white person in the country, I made notes of every thing that my red friends communicated. "Nah-moust," of whom I have already spoken, possesses a secret antidote for the poison of the "she-she-note," or rattlesnake, and my friends here all state that he frequently brings one of these snakes into the fort in his arms. Whilst he is handling it, he is incessantly chewing the root of some plant, and spitting the juice about in all directions, and the snake appears to cower with fear. He is also said to cure any one who may be bitten, by chewing the root and spitting the juice upon the wound. Some of the whites who were present seemed to think that he inadvertently let slip his secret, on seeing one of my plants; this plant proves to be a coreopsis. At Bent's fort, the usual remedy is achohol. They say that if they can make a person drunk, soon after the bite, he is safe.

This evening I again had my sitter of yesterday "Ah-ma-nah-co," seated upon the billiard table. I made a profile sketch, which showed off all his ornaments to the greatest advantage. When I had finished he seemed more delighted than ever; and he pointed out his armlets of brass, and bracelets of brass, and the broad masses of beads that garnished his leggins and his tomahawk, with its helve studded with brass tacks, and the long queue eked out with braided horse hair. He asked my permission to introduce his wife and children, and one Indian after another added himself to the spectators, so that I soon had a room full.

These Indians, like those of all the tribes I have met with, pride themselves upon the antiquity of their origin. Like the Arcadians of old, who boasted that they were "Προσεληνοι," born before the moon was created, and, like people of modern days, who trace their origin back until they become mistified. These Indians talk of their having descended from nations that lived long, long ago, and who came a long, long way to the north, endeavoring to give force to the idea, of the length of the time, and of the distance, by placing their hands close together, and then moving them slowly asunder; so slowly that they seem as if they would never complete the gesture.

In the afternoon Mr. McGoffin arrived; he had been 35 days on the road since leaving Independence, Missouri, and has a train of 25 wagons.

September 3.—Added two more plants to my collection—the "Veronia fasiculata," and the "dietria coropifolia." In the evening, Mr. Marcellus St. Vrain arrived from Captain Walker's camp above us. He said that the antelope were abundant, and there were also some deer; but the sand-flies so annoyed the people up there, that, notwithstanding the abundance of the game, they had enjoyed but little pleasure in hunting.

September 4.—This morning I obtained a fine specimen of the Arkansas shad. They are often caught of a large size; this one measured 17 inches in length. About noon, Mr. Nourse brought me some specimens of "selenite;" the people of the fort burn it, and use it to whitewash walls. I also obtained some crystals of quartz. Our Indian friends are yet loitering about the fort, imposing upon the traders the obligation of feeding them, which the latter are under the necessity of doing, or else lose the furs that the Indians may obtain in the fall.

In the evening another volunteer died, and was buried. They were obliged to cover the graves with prickly pear, or rocks, to prevent the wolves from tearing the bodies out of the ground. At some places along the Arkansas, the Indians place their corpses in trees, out of the reach of the wolf, and the whites would do well to adopt the same plan.

The weather is now becoming extremely cold. Last night we had a very severe frost, and this morning the thermometer was as low as 25°.

Saturday, September 5.—As my room was full of Cheyennes, I took the opportunity to obtain some knowledge of the genius and structure of their language. I found the English alphabet sufficient to represent all the sounds they utter, and at once set myself to work to construct a vocabulary of their language. I had the assistance of one of the best interpreters in the country.

Their language is considered one of the most difficult of any of those spoken by our Indian tribes, but the difficulty is chiefly due to the habit the Indians have of swallowing the last syllable of every word, so that many persons would hardly notice the last syllable, and therefore omit it when attempting to speak the Cheyenne language, and are not understood by the Indians.

They have no articles; their substantives are nearly as numerous as ours. Plurality and unity are generally denoted by prefixing numbers, and sometimes by terminations; as, vo-vote, an egg; vo-vo-tuts, eggs. Their pronouns have only one number, or rather they are of both numbers. Their numerical terms are beautifully arranged, each one of the digits is expressed by a different name, and the tens are expressed by affixing certain terminations to the digits.

The numbers are thus expressed:

Nast,	one.	Nah-to-t e-ote-nah,	thirteen.
Nish,	two.	do	do
Nah,	three.	Ne-so,	twenty.
Knave,	four.	Ne-so-ote-nast,	twenty-one.
None,	five.	do	do
Nah-so-to,	six.	Na-vo,	thirty.
Ne-so-to,	seven.	Ne-vo,	forty.
Nah-no-to,	eight.	No-no,	fifty.
So-to,	nine.	Na-so-to-no,	sixty.
Mah-to-te,	ten.	Ne-so-to-no,	seventy.
Mah-to-te-ote-nast,	eleven.	Na-no-to-no,	eighty.
Mah-to-te-ote-nish,	twelve.	So-to-no,	ninety.*

Mah-to-to-no, one hundred.

They express thousands by so many hundreds; as 10, 20, or 30 hundreds for 1,000, 2,000, or 3,000, &c., &c.

Their degrees of comparison of adjectives are expressed by prefixing words significant of augmentation or diminution; the adjective itself remains unchanged. The verbs have all the principal times, but are only used in one number, as the subject or subjects to which the verb belongs render distinction of number sufficiently exact without varying the number of the verb. They have all the other parts of speech belonging to the languages of civilized nations; but their nouns are the only species of words that will bear a comparison in a numerical view. The Cheyenne is far from being deficient in its capability of expressing abstract ideas. Some persons think that it would be incomplete without gesture, because the Indians use gesture constantly. But I have been assured that the language is in itself capable of bodying forth any idea to which one may wish to give utterance.

From this day forth I spent several hours in the daily study of this language, and had succeeded in forming an elementary grammar; but, on my winter journey back to St. Louis, in December and February, these papers were lost. In fact it was with great difficulty I managed to save anything that I had collected. I have, however, been able to form the following vocabulary from letters which I wrote to the bureau, and from notes I had made in my sketch book.

shell	menne
rib	leip
cap	a-tuk
clay	a-slick
canoe	rim mone
axe	ke koi ana no
flour	pini ha con
pike	hay yok
spear	ho moan
shield	ho ah
dance	mah tato uts
drum	on ne ah rome
song	mah nis tuts
toad	own hi
turtle	mine
fool	mah sown ne
soldier	no tak
chief	we ho
goose	en ni
truth	ni turn
kettle	my to took
marrow	alm
salt	wo po mah
mouse	o-ke
knife	mo tah ke
road	me oh
path	ha ke me oh
robe	home
quiver	is tis
tree	aust
grass	moist
bush	ha ke aust
(game) ball	on nish tah ke
race	ono she
fire	oist
woods	mah tah
fuel	moist
sword	ho natt
icicle	mah ome
snow	is ta se
gown	oist
awl	a un
beads	o ne a vo kist
blanket	wo pe she o nun
comb	te ha nay
hawk bells	ah qua bone
owl	nis tah
bullets	ve ol mah

iron	mah kite
hide	vo tan
back	is tato tom
belly	mah toush she
egg	vo vote
vermillion	ve o mi turn
wagon	ous chim
stone	oun mak
duck	sish ke sun
heap	highst
ashes	pah i
coals	ho us
blood	mi i
dew frost	is-she-in-eo
leaves	ve po bits
root	o to mo en
brandy	ve oc map pe
flint	moi su kah
steel	ho pass
cough	mah i mits
gun	mi tun o
heart	hi wit
bone	o co nuts
fear	to tato ist
blow	ome
a place	ne num she us
a gourd	mah an
hair	mik
hill	po e us
mountain	o-mi
marriage	o vis tah one
entrails	ve a ou nist
ground squirrel	menny wah kale
elk	mah ah
badger	mah co
bear	nah co
antelope	vo ka
turkey	mah ka in
chicken	co co ya kine
grasshopper	hah coat
butterfly	a wow chim
beetle	ah me kone
tarantula	we noe
tallow	irch ke
looking-glasses	am vo am is tuto
the pomme blanche	mo o tah
thistle	ish co
rattlesnake	she she note
wild gourd	sub sins how
cactus	mah tah

cherry	mah ne mick
lizzard	how tah wis
gopher	is te mah
sun flower	ho e nus
racoon	mach coon
water snake	ne e kis
small beetle	meush kis
bee	ha nome
centipede	me-shim me
plum	men ne min
asclepias	mah ton I must
buffalo skull	mah to ah mik
prairie snake	sa so nit tan
buffalo bull	o to wah
buffolo cow	mah no
antelope head	vo ka nah mik
fish	co co na no mine
young badger	tehon

Verbs.

poni vone	to shoot
em ho mi	to cover
o tah hoi ist	to ride
ne know vist	to hide
an no tuts	to roast
is se vote	to boil
o ne ine	to undo
ip po ust	to wrap
mo quis tun	to write
a e uts	to break

Nah-moust entered my room during the day and showed me a looking-glass frame that he had been making. With Indian patience, he had been at work on it for two days; a white man could have made it in half an hour.

In the evening, some Mormons came in from near the "Peublo," about eighty miles west of this place; they brought us some green pumpkins and corn; neither the sweet potatoe nor the cabbage has been cultivated. Around the fort we can gather great numbers of the pods of the myrtinia proboscidea.

This afternoon, "Ah-mah-nah-co" brought me two skins filled with wild cherries, one of the skins was from a young racoon, the other from a young badger. As they were stuffed out of all shape, I did not care much to draw them, but he had been so polite and obliging to me that I sketched them in order to gratify him, at which he felt so delighted that he brought his squaw to take my measure for a pair of moccasins.

September 7.—I commenced in earnest preparing for my departure for Santa Fé. I purchased some "par fleche," buffalo skin, dressed so as to form a stiff leather resembling saddler's leather, and is used for pack saddles, harness, and so forth.

I purchased some moccasins to-day, they were made of buffalo skin, dressed without the hair, and had the fronts ornamented with a figure worked in beads, intended to imitate a squaw. They have only one seam, that is on the outer side of the foot, the skin being doubled over; the inside line is perfectly straight. These peculiarities mark the Cheyenne moccasin.

I got one pair made of antelope skin that have fringes attached to the heel one foot ten inches long; these cannot be worn conveniently except by horsemen. In muddy weather the Indians braid all their fringes to prevent them from being soiled. They say that these fringes secure their legs from being bitten by the rattlesnake.

In the evening, I procured a specimen of the little plover, and set to work to transfer it to my sketch book, when old "Nah-comense" came in bringing me a couple of buffalo tongues. I asked him why he had not been to see me before; he, in reply, crooked his forefingers slightly, putting them by the side of his head, to signify buffalo, then dropping his hands a little, with the backs up, commenced moving them downwards, as if passing them over a globe; after which, he brought his hands up in front with the fingers carefully kept distinct, to signify many, then joining the tips of his fingers and thumbs, moved them back and forth towards his mouth, to signify eating, and concluded his gestures by stretching the forefingers and thumbs apart, as if to span something; he placed his hand near his stomach, and moved it up along his body until the muscle, connecting the thumb and forefinger, rested in his mouth, to signify that he was full up to the mouth. All of which meant that he had a heap of buffalo meat, and that he had been eating until he was full up to the mouth. The young men had returned laden with the spoils of a successful foray amongst the buffalo. Although the first time since January that they have had abundance, our friends had not forgotten to gorge themselves in accordance with the custom of Indian festivities.

For the last two days, they had been feasting from morning until night, and from night until morning, during which time I have not seen an Indian near the fort.

This evening a party of teamsters arrived; they seemed to be very insubordinate, and refused to go on to Santa Fé, although the troops there must be greatly in want of provisions. They said, "we engaged to go to Bent's fort, and we will go no further." The cattle and wagons belong to the government, and these independent characters had so wofully neglected them, that the oxen greatly needed rest, and the wagons repairs.

Tuesday, September 8.—I spent this morning employed in taking the dimensions of Bent's fort. It required some time to complete all the measurements. The structure is quite complex; they may, however, be useful in giving one an idea of the forts that can be built in that country. The roof and walls of clay cannot be set on fire, and the thickness of the walls renders them impenetrable to the fusil balls of the Indians. Wood is too scarce, and of such a kind as is not suited for building, while the "adobes" answer every purpose so well that they were used by Lieutenant Gilmer, of the engineer corps, at Santa Fé, in the construction of Fort Marcy. I was told that the "adobes" could be bought in Mexico for eighteen cents the hundred.

Pilka, with some of the men of the fort, went down to the mouth of the Purgatory, or "Las Animas," to get the mules, preparatory to starting for Santa Fé in the morning. They found them in a fine pasturing ground, looking much improved.

Mr. Bent's people were cutting hay; they find that the wild grass of the bottoms, when well cured, makes excellent hay.

Captain Walker came down the river, having received information of the approach of a large body of volunteers. He had some sixty head of mules, and will, doubtless, dispose of them to the volunteers with great advantage, both to himself and to the troops, as their horses are completely broken down by the march across the desert.

In the morning Bill Garey arrived here. He was the interpreter last year at the council held in August at this place, by a deputation of Delawares and the Cheyenne nation. He is now engaged in trading with the Indians in the vicinity of Peublo, or Hardscrabble.

Before dark Mr. M. St. Vrain told us that he had concluded to go to Santa Fé. We were all delighted when he announced his intention, as he will doubtless be able to procure us some fresh meat on the march, being a good huntsman, and our road leads through a region that abounds with the deer, the antelope, and the turkey. We are in hopes, too, that we shall be just in time for the wild fruits, as the plum, the grape, and the currant abound, and three varieties of the currant are found in great profusion in the mountain passes. We knew the country to be full of game; we pictured to ourselves the streams of pure cold water, over which the plum trees waved their golden drupes, while the vine twined around the cottonwood or graceful locust tree, or clambered up the mountain sides, laden with rich clusters of the purple grape, and the rocks embroidered with the currant bush, laden with its transparent wax-like berries.

Wednesday, September 9.—We now commenced, in good earnest, to prepare for our journey, and the morning was spent in packing up. I had the coffee all prepared, and enough bread baked to last several days, for I wished to have our time unencumbered for the few first days, until my party, consisting of myself, Mr. Nourse, and Pilka, should get our duties a little systematized.

At 3 o'clock we forded the Arkansas, just as several companies of Colonel Price's regiment were forming their camp. As we left, there was a slight shower of rain, and the sky looked threatening, but we were all too glad to get once more in our saddles to be turned back by a shower of rain. Several times we thought of forming camp, in order to prepare for a storm, for the clouds, with black and lowering aspect, were rushing towards us, and extended around the horizon. They, however, divided and passed along the ridges on each side of the river valley; as the glorious light of the setting sun shone between the division it contrasted strongly with the black clouds on our right and left. The day had been warm, now cool gusts of wind came puffing along the valley, bearing the refreshing scent of new fallen rain. Several hawks, whose outlines cut sharp against the dark clouds, were sporting in the air, sometimes with rapid beating wings contending against the wind, and then, ceasing all efforts, suddenly swept along.

Notwithstanding the risk of a drenching, we continued our march to the mouth of the "Rio Timpa," nearly eight miles west of Bent's, when we encamped on the banks of the Arkansas. Before dark several wagons belonging to Lieutenant Simpson, Missouri volunteers, and Mr. St. Vrain, came up with us.

We enjoyed our suppers as if we had that day taken a long journey. The very idea of once more getting on the prairie produced a pleasurable excitement that extended its influence to our dormant appetites, for want of exercise and confinement to the fort had not agreed with any of us.

At night we had a serenade from a full choir of prairie wolves; they collected around our camp in great numbers, and broke forth in sudden bursts of their inimitable music. There are times when the wolf's howl sounds pleasantly, and again there are times when the spirits of desolation seemed to be conjured up by it.

September 10.—This morning I got several species of willow, amongst which was the long leafed willow, (salix angustifolia;) also two varieties of cotton wood, (P. canadensis, and P. monolifera;) the former is often used in winter to feed horses and mules, and they seem to relish it greatly; of the latter they are not fond.

We tried to start early, but two of our mules gave us a long chase before we could catch them. At length we started up the Timpa. On either side, the prairie was covered with a dense growth of artemisia, under which the timid hare sought shelter; ever and anon the agile antelope, in droves of twenty or thirty, would dash across the road and speed away, until getting the wind of us, they would suddenly stop, and, wheeling rapidly, dash off in another direction with renewed velocity. We soon came in sight of "Las Cumbres Españolas," or the Spanish peaks, their twinned summits towering above the clouds that drifted midway up their sides. Our route bore direct for the peaks.

The road was very dusty, and the wind constantly annoyed us, heaving up great clouds of dust and sand, and dashing them into our faces. The country around us was extremely sterile. Its sandy bosom covered with cacti, amongst which were the cereus cespitosa, and cactus opuntia, and here and there, clustered in groups, the bristling bayonet leaves of the yucca angustifolia, and under our feet hundreds of horned frogs (agama cornuta) were crawling about without heeding our proximity.

We marched twenty miles, and encamped about one mile beyond the point at which the army had turned off from the road. The Timpa at this place is three-fourths of a mile from the road, and one is obliged to keep a sharp look out for it, as there is only one or two trees scattered along its bottom, and these almost hidden by perpendicular banks, in many places 15 feet high.

I should advise persons to encamp just before reaching the three conical buttes, a sketch of which was made last year; as they point out this camping place they form a very useful land mark.

The waters of the El Rio Timpa are generally very saline, but the late rain had so diluted them that we found them rather pleasant.

My little party reached this place at 4 o'clock, but the ox trains did not arrive until dark; many of the men, who wore moccasins, were complaining most bitterly of the spines of the cactus; their feet were full of them.

As there was no wood fit to burn, we were forced to use the grease brush; so the voyageurs call it on account of its burning with such a brilliant light. It is in truth the obione canescens. This, with the artemisia tridentata and Fremontia vermicularis, grows in great abundance along the valley of the Timpa.

Growing among the sage I found the "linosyris dracunculoides." It is here from three to four feet in height. We also found the "artemisia cana."

September 11.—This morning we again had a long chase after our mules; they appeared to be as wild as deer, but we at last caught them. Shortly after we had started, we passed the three conical buttes; their tops are covered with pieces of carbonate of lime, beautifully crystalized. The country now became more broken; on the ridges were scattered groves of cedar trees, and the bottom lands clad with the silvery looking foliage of the artemisias. After a march of 19 miles, we camped at a place called the Willows. Here the road crosses the Timpa; the rocks rise on your right hand to the height of 100 feet, their tops covered with cedar trees, and their sides clad with the currant (ribes cereum) and the tall cactus, "cactus undulata."

When we first arrived we had a long search before we could obtain any water. At last found some brackish pools, half hidden by the tall cane grass, (arundo phraguntes,) and bordered with the cattail (typha latifolia) and arrow weed, (sagittaria sagittefolia.)

During the night, my tent came very near being burnt up. A man belonging to the ox train entered my camp, and, throwing some fuel upon the fire, went to bed, leaving the fire burning. The grass caught; all were asleep except myself, and it was lucky for me that I had sat up. I heard the roaring of the fire, and, looking out, found the flames within a few feet of my tent. I shouted aloud, and all the men sprang up, caught their blankets as they rose, and with them soon whipt out the fire. The grass was short, or they could not so easily have extinguished the flames. As my health was not yet firm, I had since starting been very careful to tie the door of my tent, to make it as close as possible; and, when I endeavored to rush out, I found myself imprisoned. Had the tent caught, it would have been as much as I could have done to save myself; my note books and sketches that had cost me some labor, and that I valued highly, would have been destroyed.

September 12.—When daylight appeared, I again congratulated myself on the escape of last night. The ground for a considerable space around the fire was one black patch, and this extended to within two feet of my tent. We quickly struck our camp and started for "hole in the rock," which is 7 miles from the Willows. As we crossed the Timpa, at the Willows, and were going south, we had that stream on our left hand side. Where we camped the banks were composed of high, rugged sandstone rocks, covered with a dense growth of cedar and pinyon, (pinus monophyllus.) We noticed along the road many sky-larks (alauda alpestris) and meadow larks, (sturnella neglecta,) differing slightly from the common meadow lark in its note, and in its tail feathers, which, in this bird, are nearly equal; also the flicker, (picus auratus.)

While riding along the road, some distance in advance of the wagon, I noticed a number of prairie dogs seated near the entrance of their burrows, some squatted, half concealed in the mouth of their dwelling, and were barking most vehemently on my approach; but there was one that stood straight up upon his hind legs, presenting his white breast and belly to full view. Although I had never fired off my mule, I could not resist this opportunity of procuring a prairie dog. I drew up my gun and fired, with the quickness of thought; my mule turned directly about, and had made several springs in the direction of the wagon before I could check her. I now rode back, but could not identify the spot where the prairie dog had been sitting. After a little time spent in fruitless search, I continued my journey, resolved not to fire off from a mule again.

We had to search about "hole in the rock" for some time before we found water, and this was covered with a thick, green scum, fit only for the magpies and ravens that we started away from it; but, on hunting down the stream, we found some clear water in a very deep hole. On its margin, in the shade of some willows, there were many frogs sitting; now and then one would make a dart and gulph down a passing fly, so quick that we could scarce perceive the frog's motion. We killed a dozen of these frogs and had them cooked for supper.

This afternoon a young German, who accompanied the ox wagons, entered my camp. I had seen him several times at Bent's fort. On his approach, he greeted me with a salutation from Horace, "quid agis, dulcessime rerum." For some time I did not know in what language he had spoken, his pronunciation being so different from that of an American. He brought me a specimen of the horned lizzard (agama cornuta) and a species of centipede.

In the evening, Pilka caught me a gopher. I was obliged to kill it, as it struggled so hard to get away; fighting furiously with its sharp teeth, and cutting the cord with which I had tied it. I preserved the skin, also the skull; but the latter was fractured by the blow I had given, and the two upper incisors broken off.

We could now see the high, rocky peak that marks the entrance to the Raton pass. It looks like a huge, rectangular block, whose longest sides are parallel with the horizon, and is situated on a high bluff.

September 13.—We started this morning with the intention of camping at some pools, at the head of an affluent of the "Rio Purgatorio," called "hole in the prairie;" but, on reaching the desired locality, we found not one drop of water; the bottoms of the dry pools were deeply indented with the tracks of oxen, so closely crowded together as to encroach upon each other; showing how eagerly the poor beasts had crowded here. The earth was baked hard; not one sign of moisture to be seen. We had already marched 15 miles, but must now proceed 12 miles further to the Rio Purgatorio, where we were certain of finding an abundance of water and plenty of wood. On the road we met an ox, walking leisurely in the direction of the United States. It had doubtless failed of its strength, on this long stretch, for want of water.

We searched the Purgatory for plums, currants, and grapes. Although we found bushes and vines in abundance, the fruit had all gone. We here saw several flickers, with red lined wings and tails, (picus Mexicanus.) Also the common flicker, and large flocks of the yellow headed black bird, or troopial.

As our animals showed great signs of weariness, I concluded to remain here to-morrow. It was evident that our mules could not support the fatigues of such marches as we made to-day, over a country so destitute of grass, and affording such meagre pasturage; for the grass was parched by the excessive drought that has prevailed this summer. The water at "holes in the prairie," is generally considered unfailing. While hunting for water in the neighborhood of these holes, we found in the bluffs, which were of slaty structure, fragments of large fossil shells, resembling the inoceramus; the fractures showing innumerable fibres perpendicular to the surfaces of the shells. Scattered around on the tops of little mounds, we found beautiful romboidal pieces of semi-transparent carbonate of lime.

From this place on, we noticed the abundance of the artemisias, the obione canescens, and "Frémontia vermicularis," and a beautiful yellow compositaceous plant, "senecio filifolus;" cacti of several species, covered the plains. As we approached the river, we began to feel quite disheartened at the number of hills that seemed to spring up in order to separate us from the wished for goal. Our mouths were parched with long endured thirst; no one had had a drop of water since morning, for we were disappointed at "holes in the prairie." At length, however, we reached a high ridge, and when the top was attained, a splendid scene suddenly burst upon us. On the right, rose the cloud-capped summits of the Spanish peaks; in front, the gates of the Raton pass, from which issued the much wished for "Rio Purgatorio." This stream, turning to the left, held its course onward, parallel with the front of a high rocky escarpment, its valley marked by dark groves of timber. A misty vapor seemed to proceed from both rock and river, increasing in softness, veiling both river and escarpment, and itself blended with the sky; the intermediate space filled with variously shaded hills that are covered with yellow, parched grass; the foreground relieved by clustering thickets of silver leafed artemisia; while the whole is united by the road that passes along over swelling hill and sinking dale; so that the eye travels instantly to the farthest extreme, unimpeded by any abruptness. The whole scene was increased in effect by the appearance of an ox that came slowly towards us, whose loneliness perfected the repose of the landscape.

We now began to feel very anxious for news from Santa Fé. Mr. Ward, who had gone to Santa Fé, and who promised to be at the fort some time since, had not arrived, neither had we met any one on the road, and no news had been received, except the rumor that General Kearny had entered Santa Fé. Still, we knew not how he had been received, nor whether the line of communication was not guarded by guerrillas. Mr. St. Vrain spoke of going on as far as the Rio "Enseñada," to gain some information with regard to the state of the country that we would have to pass through. Daily, persons had passed the fort going to Santa Fé, but none had come back, "nulla vestiga retrorsum."

September 14.—Spent the day on the banks of the Purgatory; not inappropriately named, as one plunges into a perfect Erebus, amongst the rugged rocks of the Raton.

Our people killed five deer, and Mr. St. Vrain killed a very fat antelope; so the camp was a scene of festivity. At night we gathered around our social fires; the voyageurs grew talkative, and told marvellous tales, and we all devoured meat with the voracity of beasts of prey. It is not unusual for two men to eat a fore quarter of venison without the accompaniment of bread, or even of salt.

To-day I again saw the red shafted flickers, and endeavored to get a shot at them, but they were too shy to be approached. I, however, obtained a beautiful male specimen of the troopial, (agelaius zanthocephalus.)

I made a sketch of the Spanish peaks; there were light clouds hanging around them, but although they lent great beauty to the mountains by the ever varying contour of their shadows, that curved about in "mazes intricate, eccentric, intervolved, yet regular, when most irregular they seem," and the rays of light that pierced these clouds were ever changing; thus, the same scene presented an endless variety.

Along the banks of the stream we noticed great quantities of cotton wood, (P. monolifera,) and locust trees, (Robina pseudoacasia;) also the box elder, (acer negundo,) and dense thickets, composed of the plum and the cherry interwoven with grape vines, formed impenetrable thickets, where the deer, the hare, the rabbit, and wild turkey, found a secure shelter.

The plains are covered with a saline efflorescence, and the ground is quite bare in many places, where the animals had been licking the ground, and have trampled down the herbage. We still find the dwellings of the gopher and prairie dog around us; and the cacti are so numerous that one is obliged to thread his path amongst them with infinite care.

September 15.—This morning we were surrounded by flocks of golden-headed troopials, who mingled most socially with the common cow bird, and all in great glee were catching grass-hoppers in the vicinity of our "mulada."

Soon after starting, I rode back a short distance to examine a volcanic dike that stretched nearly east and west across the valley on the north side of the stream; having collected as many specimens as I wanted I crossed the Purgatory.

We now saw on every side a beautiful plant covered with dark scarlet flowers, a species of (nyctaginea oxybaphus.) This plant is one of the most beautiful that we had seen.

As we moved up the valley we found the hills composed of rounded pebble stones, and huge pieces of dark purple rock, that from its vesicularity and general character we knew to be volcanic.

After a march of six miles, we encamped by the side of the Purgatory again, and at the foot of a stupendous mass of rocks, whose flat tops cut into giant steps are thus connected with the lower levels of the ridge. What a field for the geologist; what pleasure would he have with the rocks piled about and strewed around us. I could not but compare the legends these rocks unfold with the doubtful records of history. See with what detail they present everything to us, showing us specimens of birds, of plants, of animals and the like, telling us when and where they existed. See how they go back ages upon ages! behold with astonishment the mighty deeds in which they have been concerned, the grand convulsions they have undergone.

September 16.—When we got ready for our march, we found that the ox teams had started long before us, but we had not proceeded more than three miles through the forests of cedar and piñon, or nut pine, when we encountered the wagons. One of them had upset, and the traders' goods lay strewed along the bottom and sides of a deep ravine. As I did not wish to be detained, as our little party could not be of any service, I requested Mr. St. Vrain to have the second wagon turned a little to one side, so that I might pass. He drew his wagon out of the way, but as soon as the oxen were loosed, the wagon loaded with the immense bulk of fifty-seven hundred weight of goods, rushed backwards down the hill; luckily it turned off the road, when after crushing a few trees in its course, it brought up against a sturdy pine. I was at the time riding round the wagon and just escaped. The foolish driver had chocked the wheels with a piece of decayed wood.

A few miles beyond the scene of this accident we noticed a high bluff bank, where there were evident signs of coal. I rode over and collected some specimens of fine bituminous coal, and on searching for fossils, found two varieties of dicotyledonus plants; of one sort, the large and cordate resembling the leaves of the catalpa, of the other lanceolate, and not unlike the willow leaves; both sorts had the veins arranged in pairs, and edges entire.

Two miles beyond this pseudo coal formation we noticed a dike of volcanic rock that runs parallel with the stream, is six feet in thickness, and is composed of various colored rock—scoriaceous in appearance. Near this place we found some of the mossy cup oak, (Q. olivœformis.)

Turkeys are very abundant, also the red shafted flickers and steuer's jay.

The beautiful tunnel of dense foliage that we passed through last year, now looks sad indeed; our horses feet do not now splash in the cool water, and the once variegated pebbles are white with dryness. The former beautiful foliage of the willows that met over our heads, now appears yellow, and the leaves hang as if wilted by fire. Here and there some aquatic plants, hid in deep nooks, still retain something of their freshness. In one place we noticed a fine grove of spruce, (abies alba,) and passed several clusters of mossy cup oaks.

September 17.—We got over the rugged acclivities and declivities of the Raton so expeditiously, that we left our fellow travellers far behind. The road we travelled over yesterday was indeed terrible. I had wished to camp near the scene of the upset, but there was no water to be had until we reached the foot of the "divide" that separates the waters of the Purgatory, running north, from those of the "Rio Canadiano," running south. I was, therefore, obliged to march to this place, which is 16 miles from our last camping ground. The mountain sides and ravines were covered with grass that is called by the traders "grama," a Spanish term, which, although it means grass of any kind, is here restricted to a particular kind, (athereopogon oligostachium.) This grass seems to prefer a hilly country, is very hardy, and animals seem to thrive well upon it, although they do not like it at first.

I found to-day a species of cactus near "mamalaria," the fruit was pyriform, one inch long, and contained small round seeds of a light brown color, and was juicy and well flavored. In the waters of the stream we found specimens of the "ranunculus aquitalis," also the "symphoricaspus glomeratis," and close to the water's edge a species of "angelica."

In the afternoon Mr. Nourse and Pilka went out to hunt turkeys and deer; of the latter there are two varieties, the common deer, and the black tail, (cervus macrotis.) They did not get any, but brought some beautiful specimens of the scarlet gillia, (cantua longiflora,) and the blue larkspur, (delphinum azureum.)

The country around us bears strong evidences of volcanic action; the tops of the high bluffs are level, and present at their outcroppings a columnar structure. There are large masses and boulders of scoriaceous rock scattered about through the gorges of the mountains.

The song of the blue bird, (sialia Wilsonii,) from his airy flight in the clouds, tells the approaching cold weather, the robin now find the cedar berries ripe, and sits in the dense foliage calling to his companions to come and feast on the fruit that the frost has so delightfully sweetened for them.

September 18.—Last night we were much annoyed by the loud snorting of one of the mules that had been fastened near some brush; he awoke us all, and we were obliged to let him loose; there were either wolves or bears prowling around our camp. This morning the mule was not to be found; we had a long hunt after him; at length Pilka found him three or four miles off in a narrow gorge. It was now so late that were obliged to give up all idea of marching. Soon Lieutenant Simpson's wagons arrived, and in the evening the ox teams of Mr. St. Vrain; the trading wagons have sustained another upset.

In the neighborhood of the camp I collected several species of compositaceous flowers; also a species of bull rush, (juncus tenuis,) and a variety of the yucca and "gilia pulchella."

Great numbers of wolves, the large grey wolf, were prowling around our camp; (canis nubilius;) it was, doubtless, one of them that had so terrified the mule last night.

Mr. St. Vrain gave me a prairie dog that he had shot; I preserved the skin, although the head of the animal was much injured by the rifle ball.

This evening, a couple of hours before sunset, I ascended a little slope that gave me a fine view of the mountain masses that were piled to the height of one thousand feet above our heads; all around me, and the valley below, were enveloped in the dark purple shadows of evening, whilst the high mountain to the east, and the plane sloping up from its base, were bathed in the golden light of the sun. Near me the landscape seemed quietly sleeping, except when one or two men gathered around the camp fires, while on the plain, at the mountain's base, the men were driving our mules down to water. What a beautiful contrast these broad masses of light and shade; this serenity of sleep with the liveliness of life.

September 19.—We had no sooner left camp than we commenced the ascent of a long hill, whose top forms the dividing ridge of the waters running north from those running south. From the top of this ridge one has a magnificent view. As the road is very tortuous, at one time one beholds the Spanish peaks directly in front; but it is only for a moment, as the road immediately bends its course to the south.

The bottom of the gorge was now comparatively level; we travelled along quite rapidly, until near the "embouchure" of the pass, when we again encountered difficult ground. Whilst riding along some distance in advance of the wagon, I discovered beyond a sudden rise that screened me, three large grizzly bears ("ursus ferox") in the middle of the road, marching directly towards me. They were then not more than 100 yards distant; I lowered my head to prevent being seen, and rode back and told Pilka to get his rifle; he hurried forward, and stooping down behind a rock waited their approach; they came to within fifty yards of him, but his rifle snapped twice; the third time he put on a fresh cap and stood up to take aim. At the loud report of the cap the bears all rose erect, snuffing the air. At last they caught sight of the cause of their alarm, when they scrambled up the perpendicular sides of the rocky gorge and ran off. We often afterwards congratulated ourselves that the rifle did not go off, for had the bears been wounded they would have created dire havoc amongst our mules; and they were all crowded in such a narrow pass, that it would have been very difficult to have saved any of them. There are few animals more to be dreaded than the grizzly bear.

Soon after this adventure, we commenced the passage of one of the most rocky roads I ever saw; no one who has crossed the Raton can ever forget it. A dense growth of pitch pine interferes with the guidance of the teams; in many places the axletrees were frayed against the huge fragments of rock that jutted up between the wheels as we passed; pieces of broken wagons lined the road, and at the foot of the hill we saw many axletrees, wagon tongues, sand-boards, and ox yokes, that had been broken and cast aside.

The pass was now full of the wild cherry, the black locust, the currant, and the plum. In the rocky portions we saw the pine, (p. vigidus,) the spruce, and the piñon, (P. monophyllous,) and near the dividing ridge the delicate hare bell, (campanala rotundifolia,) the flax, (L. perenne,) and through the whole extent of the gorge, the bright scarlet gillia, ("G. pulchella,") blue larkspur, the geranium Frémontia, and the lupine.

The pine has been found useful in an economical point of view, as from it is procured tar for the wagons.

We now issued upon the plains, once more to see the beautiful galardias and helianthoid composita, and listen to the lively barking of the prairie dogs. At length, after a journey of 17 miles, we encamped three-fourths of a mile above the crossing of the "Rio Cañadiano," where we found a fine stream of cool water, clear, too, as crystal, and running over a clean pebbly bottom, shaded by large cotton wood trees and willow thickets, on which the hop vine clambered, covered with a luxuriant growth of its chaffy fruit.

September 20.—As the ox teams moved too slow for me, I determined to wait for company no longer, but with Mr. Nourse and Pilka to push on for Santa Fe. So we arose early this morning, intending to camp on the "Rio Vermėjo," which is 20 miles distant.

We travelled over a fine prairie, covered with a luxuriant growth of grass; in many places it had been very marshy, and was overgrown with the cat-tail, "typha," and cane grass, "arundo phragmites." These plains look much greener than those to the north of the Raton.

We saw a band of elk or warpiti, (C. canadensis.) We also saw many herds of antelope, in troops of 10 or 20, and the large grey hare were running about in all directions. Amongst the birds we discovered the turkey vulture, the raven, the meadow lark, (S. neglecta,) and the sky lark, (alanda alpestris.)

The prairie was, in many places, yellow with the senecio filifolius, and beautiful patches of the purple verbena, (V. pinnatiffida,) were constantly recurring. The Mexican poppy was abundant, and of the cacti we had the "opuntia" and "cereus cespitosa."

At 3 o'clock, we had reached the "Vermējo," but we found no water in the river, and were obliged to proceed six miles further, where we found some pools. Here the water had a saltish taste, but was quite pleasant; the ground around the pools was whitened with a saline efflorescence. Here we obtained many beautiful crystals of carbonate of lime. There were also many places where a dark variety of this rock appeared, bulging from the earth in convex masses of three or four feet in diameter.

Our mules seemed to relish the salt grass with infinite gusto, and the water was no less pleasing to them; but wood was scarce in the vicinity of the ponds, therefore we did not feel perfectly satisfied, and at last were fain to have recourse to the artemisias.

The "obione canescens" grows so abundant as to fill the creek bottoms, and, with the yellow willow, are two of the most characteristic plants.

On the banks of the "El Rio Cañadiano," I got a curious variety of "oxybaphus," delicate branching species, and a variety of asclepias, also "œnothera sinnata."

September 21.—After a march of four miles, we reached the Cimmaroncito. This stream is composed of two large branches, each of which the road crosses about sixty yards above their junction. Soon after leaving this river, we met Lieutenant Elliot, of the Missouri volunteers; he had a long train of wagons, and was on his way to Bent's to bring up the government stores that had been left there. I now procured, through the kindness of Lieutenant Elliot, a sketch of my route from this place to Santa Fé, with all the watering places and good pasture grounds marked thereon, and much verbal information that was of great value to me. I also learned that General Kearney intended leaving Santa Fé on the 25th proximo. I therefore determined to travel as expeditiously as possible, in time to go with the army, in case my services should be required. As it was too late to reach the "Ocate" this day, I was forced to camp on the Rayada, ten miles distant from the little Cimmaron; about midway we crossed the "Poñi," which was dry, and at last reached the Rayada, which was full of excellent water. On this stream we had the "populus monilifera," and thickets of willow, and I got a beautiful scarlet plant, "chelone barbata," and a penstemon, with scarlet flowers.

In the afternoon, we tried to catch some prairie dogs by forcing them out of their holes with water. We poured bucket after bucket into their dwellings without flooding them. One dog showed itself near the mouth of its burrow, but, as soon as it saw us, again retreated.

September 22.—We started at sunrise, and, before we had gone far, passed two little rills of clear water. Continuing our journey, we reached a large shallow pool, the shores of which were covered with thick saline efflorescence; the whiteness was painful to the eye. After passing it, we entered a narrow gorge, the tops of the bluffs on each side were crowned with a stratum of amaygdaloidal trap of a dark purple color and vesicular. Presently we reached the extremity of the gorge, and ascended to a "mesa" or horizontal plain; and, when we looked to our right hand, we saw another horizontal plain yet higher than the one we were then travelling on, and covered also with a bed of volcanic rock about five feet in thickness. Keeping close to the foot of this highest "mesa," we reached the "Ocate;" as it is a cañoned, that is, is enclosed with high rocky walls, we were forced to go two miles up stream in order to reach the crossing. As it was only 3 o'clock, and I had hopes of reaching the next camping ground before dark, we continued our march, although we had already come 22 miles. We travelled until night fell upon us without finding any water. I had not yet sufficiently recovered to bear such a journey, and was obliged to get into the wagon. The night was very dark, and we travelled along with considerable difficulty, as the driver could scarcely see the road. At last we heard the joyful cry of water, and we found ourselves close by some fine pools, that were, fortunately, just in the road, or we could not have seen them. This was an old camping place, and in hunting around we stumbled on some charred sticks, that had helped to cook the dinner of those who had preceded us, and now cooked ours.

We had now reached "ponds in the prairie," 18 miles distant from the Ocate, and have made a day's journey of 40 miles, having come from the Rayada to the "ponds in the prairie."

September 23.—We had scarcely left our camp when the signs of civilization broke upon us; in moving along the valleys, we saw flocks of sheep, droves of horses, and large herds of cattle. These are guarded night and day by lads who, in the language of the country, are termed "pastores;" they were miserably clad in tattered blankets, and armed with bows and arrows; these and their big shepherd dogs constitute their sole defence, although they are subject to be attacked by the Indians, and their flocks and herds by Indians and wolves.

After a march of five miles, we reached the "Rio Moro," and passing several "corales," or enclosures, we at last came in sight of some adobe houses. The proprietor of one of those houses was an American, named Boney, who has since been murdered by his "peons." He invited us to alight and enter his house, where he treated us to milk, cool from the cellar. In his house there were a dozen fire-locks of different kinds, escopettes, fusils, rifles, and muskets. The residents of the other houses were New Mexicans. As we passed by, they proffered us some "aquardiente," or liquor. I told them that we did not wish any; at which they seemed much surprised, crying out "Vmd. no quiere aquardiente! Vmd. ciertamente no es Americano." Notwithstanding this risk of being denationalized, we refused the aquardiente. They then brought us some fresh mutton, that I consented to purchase, and it proved to be excellent.

There is very good pasture grounds along the Rio Moro. The valley is from 60 to 70 miles long, and increases in width to its junction with the valley of the Cañadiano.

Shortly after crossing the "Moro," we forded the "Rio Sepullo;" both of these streams contain an abundant supply of water. The

Moro is 15 feet wide, and averages one foot in depth at the ford. The Rio "Sepullo" is smaller, but worthy of the greatest share of notice, as it is the point at which we again meet the road that we left at the crossing of the Arkansas. Although that road avoids the terrible cañon of the Raton, yet the scarcity of water is so great that, in dry seasons, the teams get broke down, and one is obliged to send into New Mexico for fresh animals.

During the march, we saw several immense rattlesnakes; one happened to be crossing the road directly in my path. I heard it rattle, and my mule springing back several yards and getting entangled with the leading mules in the wagon, the trace chains became unhooked, and for a little time threw the whole team into confusion.

Towards the latter part of our route, the road was strewed with fragments of hard blue limestone, that made the wagon rattle away at a great rate. After a march in all of 27 miles, we reached "Las Vegas." As it was near sundown, we deferred visiting the village until the next morning.

We soon sat down to a supper of ducks, (fulica Americana;) they were very fat, and although a species of duck not very highly appreciated in the United States, still I think it must be merely owing to prejudice. They are generally known as the common coot.

September 24.—As soon as we arose a Mexican came over to pay us a visit; he was mounted on a fine horse, and appeared to be on duty, guarding the corn fields that lay around the town, for they have no fences to protect them against devastation from the cattle that are grazing near them.

Our "amigo" rendered us great assistance in harnessing a wild mule, for we were obliged to tie the fore feet, and blindfold it, before the harness could be arranged. We now entered the town of "Las Vegas." There was a large open space in the middle of the town; the streets run north and south, east and west; the houses are built of "adobes." The "azoteas," or roofs, have just enough inclination to turn the rain, and the walls of the houses, which are continued up one foot above the roof, are pierced for this purpose. Through the midst of the town there was a large "acequia," or canal, for the purpose of supplying the town with water, and of irrigating the fields.

As we passed through, I asked one of the inhabitants if he had any corn to sell, "Si, Señor Caballero; tengo maize, elote calabazas, melones, y Chili tambien," and he soon brought me some corn on the ear, some pumpkins, melons, and red pepper; and, after I had concluded my purchases, he pulled a bottle out of his pocket, saying, "No quiere vmd. whiske." This was the alcalde. Two miles south of "Las Vegas," we reached a curious gate between high escarpments of rugged granite rocks, that looked as if the surfaces had been formed by blasting with gunpowder; here, too, a little stream finds its exit from the mountains.

At 10 o'clock we reached the village of "Tacalote," after a march of 12 miles. I was obliged to camp here or else go to the

"Ojo Vernal," where, I was informed, the grass was very scanty. I went some distance up the creek at "Tacalote," and encamped in a fine meadow of grass, close to some corn fields. Some of the inhabitants came out, and said that I must not camp there, as my mules would get into their corn fields, but upon my promising to keep good watch over them, they agreed to let me remain.

At this place they have a great many sheep and goats, the latter are kept for their milk. These animals are watched all day by the "pastores," and driven into the "corral" at night.

I here purchased some "miel," or molasses manufactured from corn stalks, this process is very laborious; all night and day one hears the pounding of their mauls, with which they bruise the corn stalks.

In the evening a lad brought me some "melones" and "sandias," musk melons and water melons, but they were so unripe that none of us could eat them. The New Mexicans have a habit of pulling their fruit before it is ripe.

September 25.—The plants that occur are but a repetition of those found in the Raton; the mountains are clad with the pine, the cedar, and the "piñon;" the common thistle occurs in great abundance, and in the corn fields we find the cockle burr, "xanthium strumarium," the sage (salvia azurea,) the sand burr, and various species of the sunflower tribe.

After we had marched six miles, we reached a celebrated spring, "Ojo Vernal." It lies at the foot of a very high bluff with a flat top. The water was indeed delightful, but there was no good grass in the neighborhood.

We stopped here a little while to taste of this delightful spring, and then proceeded seven miles further, to the village of "San Miguel. This town is embosomed by high rocky ridges, that rise up in succession, until lost in aerial mists of distance. In the centre of the town there is a large church, whose front is flanked by square towers, each containing several bells, and crowned with crosses.

On the north side of the town flows the beautiful "Rio Pecos." As I passed the river I noticed the women passing and repassing with immense ollas or jars for carrying water, these they balanced upon their heads, and this custom causes them to walk with great dignity. Many of the young women had their faces hidden under a thick coat of whitewash, and many had bedizened their faces with the juice of the poke berry.

At one place there was a group of women busy washing clothes. They were most of them clad in a single under garment, and waded in and out of the water without regarding the presence of an "Americano."

The river is three feet in depth, and from 16 to 20 in width; there is a rude bridge constructed here for the convenience of foot passengers.

As there were no pasture grounds near the village, I was forced to buy "zacate" for my mules.

September 26.—This morning we passed through the village of

"San Miguel," and thence up the valley of the Pecos. Near the cemetry we noticed a number of tame pigeons; these and chickens were the only fowls that we noticed.

Our road now lay by the foot of a high bluff that raised its crest 600 feet above the valley. Its sides clothed with groves of cedar and piñon. The groves on each side of the road were full of stellar jays, (garrulus stelleri,) red shafted flickers, and robins; the woods were vocal with the varied notes of these lively birds.

As we journeyed along we were continually seeing most motly groups of human beings; sometimes we met long trains of men and women mounted on mules; the señoras with their heads enveloped in their "rebosas," the men with their pantaloons open at the side from their hip down, thus displaying their ample drawers of white linen, and with their heels armed with immense jingling spurs. Sometimes we met single couples mounted on the same mule. Most of these men were armed with naked swords that lay close against the saddle. At one time we passed a group of Indians; they had pack mules laden with buffalo robes and meat. Their jet black hair was tied up in short stumpy queues with some light colored ribbon. They told me that they were "Teguas" Indians; that they had been far out on the prairies trading with the Camanches, and were now going to sell their robes in Santa Fé.

As we neared the ancient village of Pecos, we crossed the river in the neighborhood of a fine spring, where we found two large trains of wagons; one belonging to Mr. McGoffin, and the other to Mr. Algier; they were repairing wheels, for the dryness of the atmosphere is such that nearly all the wagons that cross the prairies must here have the tires cut.

In the afternoon I went out upon the hills to see the ancient cathedral of Pecos. The old building and the town around it are fast crumbling away under the hand of time. The old church is built in the same style as that of "San Miguel," the ends of the rafters are carved in imitation of a scroll; the ground plan of the edifice is that of a cross. It is situated on a hill not far from the winding course of the river. High ridges of mountains appear to converge until they almost meet behind the town, and through a little gap one catches sight of a manificent range of distant peaks that seem to mingle with the sky.

The village of Pecos is famed for the residence of a singular race of Indians, about whom many curious legends are told. In their temples they were said to keep an immense serpent, to which they sacrificed human victims. Others say that they worshiped a perpetual fire, that they believed to have been kindled by Montezuma, and that one of the race was yearly appointed to watch this fire. As the severity of their vigils always caused the death of the watchers, in time this tribe became extinct. Again, I have been told that some six or eight of their people were left, and that they took the sacred fire and went to live with the Pueblos of Zuñi.

The scenographical arrangement of the surrounding country is remarkably picturesque; the view of Pecos, as it now lies, without the least addition, would form a beautiful picture, and more than a picture, for every cloud, every degree that the sun moves, gives such varied effects to the landscape, that one has a thousand pictures; but their effects are so fleeting, that although they last long enough to delight the spectator, it would yet perplex the artist to catch these changes. For my part, I tried, and tried in vain, until at last some large night herons came sweeping over my head, and warned me that the shades of evening were drawing on, when I returned to camp.

September 27.—Santa Fé is now within 29 miles of us, and we at length feel as if we were about to reach the "ultima thule" of our wishes.

Although the road was difficult on account of the high hills and deep defiles over which we would have to pass, yet I determined to enter Santa Fé this day. I proceeded somewhat faster than the wagons, and before long overtook two Spaniards on their way to the same place. As they knew the route perfectly, I accepted their proffered guidance through the short cuts by the cañons in the mountains. At length we reached Armijo's cañon. Here we found plenty of cool water, where we all dismounted to allow our mules a little rest, when my friends produced from their wallets some sweet "bizcochos," which they persisted in sharing with me. I by good luck had some buffalo tongue in my pocket, that added not a little to our rural repast. We again mounted, but, before proceeding far, met a man driving a "carreta." My amigos now signified their intention of stopping some time, and, bidding me "vaya con dios," I left them and hurried on, for a time following the course of the stream which is a tributary of "Rio de Galisteo."

I now left the stream and commenced the steep ascent of the mountains, whose sides are overgrown with the pitch pine and the piñon. On the far side of the steep I met Colonel Ruff, of the Missouri volunteers, returning to the United States, and Judge Houghton, one of the judges of the supreme court of New Mexico.

We stopped to exchange what news we had, and then separated, I with a new impulse to move forward, for I learned that Santa Fé was but 12 miles distant. About 5 o'clock I came in sight of a square block of mud buildings one story high. In a little while after, I caught sight of the flag of my country waving proudly over some low flat roofed buildings that lay in the valley. I knew this must be Santa Fé. I hurried on, and was soon seated amongst my friends, who looked upon me as one awakened from the dead.

28*th*.—I was much surprised with the manners of the Mexicans at a funeral. They marched with great rapidity through the streets near the church, with a band of music. The instruments were principally violins, and these were played furiously, sending forth wild raging music. The corpse, that of a child, was exposed to view, decked with rosettes and flaunting ribands of various brilliant hues, and the mourners talked and laughed gaily, which seemed to me most strange. I was told, too, that the tunes played were the same as those which sounded at the fandangoes.

In the morning I called upon Governor Bent, who, to all the qualifications necessary to his office, possesses those of a long residence in this country, a constant intercourse with the people, and an intimate knowledge of their language and character.

In the afternoon I strolled through the "plaza," or public square. On the north side is the palace, occupying the whole side of the square. On the remaining sides one finds the stores of the merchants and traders, and in the centre of the square a tall flag staff has been erected, from which the banner of freedom now waves. There all the country people congregate to sell their marketing, and one constantly sees objects to amuse. Trains of "burros" are continually entering the city, laden with kegs of Taos whiskey or immense packs of fodder, melons, wood, or grapes. Our own soldiers, too, are constantly passing and repassing, or mingling with the motley groups of Mexicans and Pueblo Indians.

The markets have, in addition to the articles already mentioned, great quantities of "Chili colorado," and "verde," "cebollas" or onions, "sandias" or water melons, "huevos" or eggs, "queso" or cheese, and "hojas" or corn husks, neatly tied up in bundles for making the cigarritos, "punche" or tobacco, "uvas" or grapes, and "piñones," nuts of the pine tree, (pinus monophyllus.) These last are slightly baked to make them keep, and are brought to market in great quantities. Besides these things, there are many varieties of bread, and several kinds of meat. The Pueblo Indians bring in great quantities of peaches which are here called "duraznos." In the evening I attended a ball, here styled a fandango. The Mexican ladies had laid aside their "rebozas," and were clothed much after the manner of our own females. Stuffs most rich, and skirts of monstrous width or fullness. While sitting down they were wrapped in splendid shawls. These were generally thrown over the head like the reboza. They gazed round the room with great complaisance as they smoked their cigarritos. Waltzing forms the chief part of all their dances. The principal ones are the "cumbe," and the "Italiano." These people have an excellent notion of time, fine voices, and seemed to be enthusiastically fond of music. They are polite to excess, and I hear them often exclaim at what they call rudeness of the Americans, saying "no tienen vergüenza," for a Mexican never even lights his cigarrito without asking your consent, "con su licencia señor."

At this dance I had the pleasure of tasting some of the wine from "El passo del Norte," which in its delicious flavor realized all I had anticipated.

September 29.—As I had found orders from General Kearny, directing the survey of New Mexico, with Lieutenant Peck of the topographical engineers, I set out this morning to visit the gold mines, between thirty and forty miles to the south of Santa Fé. Having made all our preparations yesterday, we were enabled to get off very early this morning. The first nine miles of our road led us through groves of cedar and piñon; at length we got upon the bare valley, where nought is to be seen but the cactus, and a scant growth of grass, and the yucca; and along the road great numbers of horned lizzards. Towards the latter part of the day we entered a very sandy country; here lay huge masses of sandstone and fragments of immense petrified trees. We soon commenced clambering up the mountain side, and at last reached the "placero" or "real viejo;" here we made diligent inquiry for a Mr. Waters, at whose house we wished to stay, as we understood he was the only American in the village. We found he had gone off on a hunt. We endeavored to get some of the people of the house to admit us, but they did not seem to like our appearance, and refused to let us stay with them. It was now quite late, we were very hungry, and our mules had had nothing to eat since early this morning, and the country around was as sterile a piece of ground as one could wish to see. "Siempre dija la ventura, una puerta abierta." So, after a great deal of persuasion on our part, they put our mules into a corral, and gave them some corn. No fodder was to be had here; in fact, there was scarcely anything to be had in the village. The houses were the most miserable we had yet seen, and the inhabitants the most abject picture of squalid poverty, and yet the streets of the village are indeed paved with gold. All along the bottom of the stream and in the heart of the town you see holes scooped out by the gold diggers. After doing our best to make ourselves agreeable to the people, they consented to let us spend the night in a hovel, next door to a mill, in which a burro was busily at work grinding gold ore. Some Indians now entered the town, with trains of burros loaded with musk melons. As we began to feel the cravings of hunger, we purchased some melons and bread, on which we tried to make our suppers. We got our saddles and saddle blankets, and endeavored to form them into a bed on the earthen floor of our luxurious "posada." At length we received the news that a certain Señor Don Ricardo had arrived, who was an American, so we at once repaired to his house. Conceive our delight in meeting with a countrymen, Mr. Richard Dallum, the Alguacil of New Mexico. He immediately invited us to come and stay at his house, and gave us an excellent supper.

From the "portail" of his house we noticed holes dug in the sides of a hill of sand in front of us; these were the vestiges of the gold diggers. The mountains of sand were based on masses of granite, specimens of which we collected.

This village contains about 200 inhabitants, who raise great numbers of sheep and goats. In the neighboring valleys they graze 5,000 sheep. Some years ago they raised many more, but the constant depredations of the "Navajoes" have caused a great diminution in their flocks.

September 30.—In company with Mr. Dallum, we started this morning on a tour of exploration. One-fourth of a mile higher up the ravine we entered another little town; our way was on all sides full of holes, and sometimes deep wells that had been sunk in search of the precious metal. We saw many miserable looking wretches, clothed in rags, with an old piece of iron to dig the earth, and some gourds, or horns of the mountain goat, to wash the sand. They sit all day at work, and at evening repair to some "tienda" or store, where they exchange their gold for bread and meat.

We now reached the house of a Frenchman, who seemed to be most extensively engaged in mining; he had three mills, and one was then at work. This mill, a specimen of all the others, was of rather rude construction; it consisted of a circular pit ten feet in diameter, and about eight inches deep; the sides and bottom lined with flat slabs of stone. In the centre of this pit an axis was erected, from which three beams projected horizontally. To the longest arm a burro was attached, to the two others large blocks of stone were attached with cords, so that their flat surfaces were dragged over the bottom of the pit.

The ore that is here found in quartzose rock is broken into small pieces and thrown into the pit; water is also poured in, and donkey holds his monotonous round; the mixture now attains the consistency of thin mud; a couple of ounces of quick silver are thrown in; this forms an amalgam with the gold, and when the pit is cleared from the water, the amalgam is collected from the crevices between the stone slabs, it is tied up in a piece of rag or buckskin, thrown into a crucible and the mercury sublimed.

Around this mill we found iron ore of remarkable purity, which is dug out with the gold.

The proprietor of this mine very generously gave us as many specimens of the ore as we wished. The gold exists in small particles, visible to the eye, scattered through a quartzose gangue.

We now ascended to the mines. Here we found deep wells; they are ascended and descended by the means of notched pine trees that extend diagonally across. I procured a specimen from a vein that had been just struck. These pieces had a smoky appearance, as if produced by the flame of a candle, but the stain is indelible. The mountain sides were scattered with fragments of granite and rock containing gold. We now returned to the house of our entertainer, who refused to receive any remuneration for the trouble we had caused him, and who gave us many specimens of the ore. Having taken our leave, and inquired our route to the new mine, or "Tuerto," as it is generally called, I suppose from the crooked stream that runs near, we set out on a difficult path across the mountains. We passed up a steep ravine, so steep that the rolling of stones had worked a straight road that looked as if timber had been dragged down the hillside. As our mules climbed up, the loose stones came clattering down. We soon reached the summit, and commenced the descent. Here we saw much dark blue limestone; some, in fact, almost black. On the road we met Señor Don José Chaviz, of Padillas; he was attended by one of his peons, and was going to the same place whither we were bound. We soon entered the valley that separates the two ranges of mountains in which the gold mines are located.

From this place we had a fine view of the mountains, and one is struck with the arrangement of the lines, they being nearly straight, and running up pyramidically, showing the loose sandy nature of of the soil. After a ride of eight miles we reached the village of

Tuerto, and inquired our way to the house of Mr. Richard Campbell, where we were kindly received, and most hospitably treated. He showed us some fine specimens of native gold that had been found in the neighboring valleys, and were scattered through the detritus that is formed by the crumbling down of the auriferous rocks of the mountain. One specimen was worth $15.

In the evening we visited a town at the base of the principal mountain; here, mingled with the houses, were huge mounds of earth, thrown out from the wells, so that the village looked like a village of gigantic prairie dogs. Nearly all the people there were at their wells, and were drawing up bags of loose sand by means of windlasses. Around little pools, men, women, and children were grouped, intently poring over these bags of loose sand, washing the earth in wooden platters or goat horns. One cannot but feel pity for these miserable wretches, and congratulate himself that he does not possess a gold mine. Even the life of the poor pastores is much preferable to that of these diggers of gold.

Tuerto contains about 250 inhabitants. It is situated on a ravine, that just furnishes sufficient water for this place and the town at the base of the mountains, which is 1½ miles distant. Some of the people own large flocks of sheep, which they keep in the valley of the Pecos.

In the evening we saw the "villanos" milking their goats. This business requires considerable dexterity, and is not one of the least amusing scenes in New Mexico.

October 1.—We now started to examine the mines of the new placer. Mr. Campbell kindly furnished us mules, in order that ours might have an opportunity to rest and to graze. We first visited a lead mine, situated near the road that runs to St. Antonio; it is in a direction nearly south, situated at the foot of the mountains, and overlaying a bed of fossiliferous limestone. We collected specimens of the lead ore, and the limestone; then, proceeding eastwardly, commenced ascending the mountain. Our course now changed towards the north. Near the summit of the mountain we visited a large copper mine. Mr. Campbell proceeded to enter with great caution, and told us that he feared least some evil disposed Mexicans should be lurking in these caverns, for there were many discontented spirits about the country, trying to revolutionize the people, and some were said to dwell in these mines and caverns.

We found beautiful specimens of ore of copper of various kinds. Mr. Campbell ground up some with the aid of a couple of stones, and after a little washing showed us a great many particles of gold and silver; indeed, the ore was quite rich with these metals. This vein went through a compact limestone that is worn as if a water course once ran through the place now occupied by the ore. The projecting pieces of rock are rounded, and the sides of the passage worn into deep rounded fissures that our host calls pockets; and he tells us that in them the richest ores are found. Around the mouth of the mine we saw pieces of carbonate of lime scattered; it had been dug out with the copper ore.

We continued our northern course across the mountain, and soon commenced to descend, and in our route stopped at Mr. Campbell's gold mine. Here the ore is composed of a very porus and vesicular rock, that crumbles with a slight blow, and one can easily break off pieces with the hand from the roof and sides of the mine. The vein is nearly horizontal, and its bearing a little north of west, (N. 50° W.,) and runs through compact limestone. The sides of the mine are full of pockets and rounded projections. Mr. Campbell says that ore found near the surface of the earth proves the richest, and that he finds the gold does not defray his expenses when he penetrates to a great depth. Here, too, we find carbonate of lime; it occurs in rhombohedral crystals. These mines are much more extensively worked than those of Real Viejo, and, notwithstanding the scarcity of water, I have been told by several persons that not less than 2,000 people congregate here in the winter season, when they can get water from the snows. These workers spend the greater part of their time under ground, living on "atolé," a dilute kind of corn mush; sometimes coming forth to the light of day, when they wish to sell the product of their labor.

The value of these mines cannot very well be estimated now, as there have been many improvements in the methods of working gold, which, when adopted at these mines, may produce a great increase in their annual yield. At present, none of the owners of these gold mines have ever become wealthy by their mining operations, and I have met several who have sunk all they had in searching for gold.

Mr. Campbell tells me that he got from his wells one piece worth $700, and, at another time, a piece worth $900; these were at first carried off by the workmen, but were of such value that the whole truth, with reference to the theft, was exposed, and our host recovered his property.

The raising of sheep would be much more profitable if it were not for the depredations of the Navajoes. Even now great numbers are raised, whose flesh is as fine as any I have ever tasted. Some of the "Ricos" on the Rio del Norte are said to own 40,000 sheep. Wool is not considered very valuable, and can be bought for 4 cents a fleece, or a proprietor will permit any one to shear his sheep for $1 the hundred.

The houses throughout the country are furnished with mattresses, doubled up and arranged close to the walls, so as to answer for seats; these are covered with beautiful Navajoe blankets, worth from 50 to 100 dollars. The wails, midway up, are covered with calico, to prevent the whitewash rubbing off; and the whole interior of the houses of the wealthy is covered with mirrors. All the hidalgos pride themselves on allowing nothing but silver to approach their tables; even the plates are of silver. But, with all this air of wealth, true comfort is wanting; and very few of our blessed land would consent to live like the wealthiest Rico in New Mexico.

While we were at Tuerto the following notice was received, which, as it gives a view of the civil officers appointed for this territory, may be of interest:

"Aviso."

"Hallandome debidamente autorizado por el Presidente de los Estados Unidos de America, por la presente, hago los siguientes nombramientos, para la gobernacion de Nueva Mejico, Territorio de los Estados Unidos.

"Los empleados asi nombrados seran obedecidos y respetadas segun corresponde."

CARLOS BENT,	sera	*Gobenador.*
DONACIANO VIGIL,	"	*Secretario del Territorio.*
RICARDO DALLUM,	"	*Esherif Mayor* (*Alquacil.*)
FRANCISCO P. BLAIR,	"	*Promoter fiscal* (*Mayor.*)
CARLOS BLUMMER,	"	*Tesorero.*
EUGENIO LERTENSDORFER,	"	*Yntendente de cuentas publicas.*

Joab Houghton, Antonio José Otero, y Carlos Bavbien, seran jues de la suprema corteda de justicia, y cada uno en su districto, sera jues de circuto.

"Dado en Santa Fé, capital del Territorio de Nueva Mejico, esta dia à 22 de Septembre, 1846, y el 71° de le independencia de los Estados Unidos."

S. W. KEARNY,

General de Brigada del Egercito de los Estados Unidos."

October 2.—This day we left our kind friends, and Señora Campbell bade us adieu with the greatest reluctance, assuring us that her house, and all it contained, were ever at our disposal; and although poor, yet we would never find that her hospitality was limited by the narrowness of her circumstances. In vain we pressed them to allow us to compensate them for their trouble; they would not receive any remuneration.

We now travelled rapidly, in order to reach Santa Fé before dark; our mules, well laden with specimens, trotted along quite briskly; we soon reached Rio de Galisteo; on one of its tributaries we found evidences of coal, and the bed of the main creek was white with saline efflorescences. Crossing the creek we entered a little vale, traversed in various directions by walls of trap; at one place we saw a wall that looked, at a little distance, as if made by human art; it was pierced as if for windows and doors. A stranger whom we met insisted that this dike was one of the vestiges of the "Indios," who lived here long long ago. But the Cyclops alone could have worked with such vast materials as these. The planes of the joints and cleavage have formed the mass in fragments, consisting of rhomboidal prisms, whose axes are perpendicular to the cooling surfaces.

As we neared Santa Fé, we overtook a carreta loaded with little crates filled with grapes; we bargained with the Pueblo Indians, who were driving, and for a "media" procured as many bunches as we wished; these, with some Spanish bread, formed our noon repast, which we washed down with delicious water from the little arroyà that flows by the village of Cienèga.

In a little while we reached Agua Fria, and soon came in sight of the city of Santa Fé. By the roadside we saw many cortejos, some half shaded with cotton-wood trees and surrounded by corn fields. Soon Fort Marcy came in view, and our glorious flag, with its graceful stripes, playing in the wind; and before the sun went down we found ourselves once more in the capital of New Mexico.

October 3.—We employed the day in packing up our collection of minerals, bird skins, and the like, in order to send them on to the department as soon as possible.

I called on Colonel Doniphan, and spoke to him with regard to the procuring of an escort through the country of the Navajoes; he most willingly offered me every facility, and proposed giving me a letter to Colonel Jackson, who was now near Cibolleta, and he would furnish the escort.

In the evening we visited Fort Marcy. It is situated on a prominent point of the bluffs commanding the city. The distance of the centre of this work, from the flag-staff in the plaza, is but 664 yards. The whole of the interior is defiladed from all the surrounding heights within range; 10 guns may be brought to bear upon the city. The slopes are revetted with adobes. The block-house and magazine are constructed of pine logs one foot square. The only approachable point is guarded by the block-house, which also assists to protect the entrance of the fort.

October 4.—We were early awakened with the ringing of the campanetas, summoning the good citizens of Santa Fé to morning mass at the parroquia, or parish church. I had a great desire to see the interior of this church, which, with the "Capilla de los Soldados," are said to be the two oldest churches in the place, and were doubtless those alluded to by Pike, when he says, "there are two churches, the magnificence of whose steeples form a striking contrast to the miserable appearance of the houses." During the noon service I attended the church. The women, veiled in their rebozas, sat, after the Turkish fashion, on the bare ground to the right hand side of the aisle. The men stood up, except when the ceremony of the church required them to kneel. They kept on the left hand side of the church. The body of the building is long and narrow; the roof lofty; the ground plan of the form of a cross. Near the altar were two wax figures the size of life, representing hooded friars, with shaved heads, except a crown of short hair that encircled the head like a wreath. One was dressed in blue and the other in white; their garments long and flowing, with knotted girdles around the waist. The wall back of the altar was covered with innumerable mirrors, oil paintings, and bright colored tapestry. From a high window a flood of crimson light, tinged by the curtain it passed through, poured down upon the altar. The incense smoke curled about in the rays, and, in graceful curves ascending, lent much beauty to the group around the priests, who were all habited in rich garments. There were many wax tapers burning, and wild music, from unseen musicians, fel pleasantly upon the ear, and was frequently mingled with the sound of the tinkling bell.

October 5.—The plaza was now our place of daily promenade, as one sees more of character displayed in the market place than at any other public assembly. No one can visit this country without being struck with the inveterate habit of the people for gambling. The word "monte" is one of the first a stranger learns. In the market place, by the road side, nay, almost everywhere, you will see the "villanos" seated around, in little groups, deeply absorbed in their games. But, although they carry this vice to great excess, they are extremely temperate in their meats and drink. The term borrachon (drunkard) is considered one of the most opprobrious epithets in their language.

The Spanish women make excellent bread, and great quantities are exposed for sale in the plaza. I understand that the flour is sifted by hand, and, instead of yeast, they use the dough from a previous day's mixing. One kind of flour is quite coarse and dark; this sells in Taos for $2 50 the fanega, (144 pounds.)

In the evening I made a sketch of the parroquia, although mud walls are not generally remarkable; still, the great size of the building, compared with those around, produces an imposing effect.

Fort Marcy is seen lying close on the top of a high bluff, and behind it rises the tops of magnificent mountains.

The house of Padre Ortiz, on the right hand side of the church, has a fine portail in front, being one of the best dwelling houses in the city.

October 6.—This morning I visited the "Capella de los Soldados," or military chapel. I was told that this chapel was in use some fourteen years ago, and was the richest church in New Mexico. It was dedicated to "Nuestra Señora de la luz," (our lady of light;) in the façade, above the door, there is a large rectangular slab of freestone elaborately carved. It represents "our lady of light" in the act of rescuing a human being from the jaws of Satan, whilst angels are crowning her; the whole is executed in basso relievo. One here finds human bones and sculls scattered about the church; these belonged to wealthy individuals who could afford to purchase the privilege of being deposited beneath the floor of a building in which so many orisons would be offered to Heaven, hoping that these prayers would procure absolution for their sins. But a few years ago the roof of the church fell in; no more prayers have since then been offered there, and the wealthy have not even found a quiet resting place.

To-day I gained much information with reference to the ruins of Pecos, but it does not differ from the accounts given in that excellent work called "Commerce of the Prairies," by Gregg. I asked how it happened that the old church should have been built in the form of a cross, and was told that it was erected under the direction of the Jesuits, who founded schools there, and who labored much to reclaim the Pecos Indians from their superstitions. Strange what influence these superstitions have on enlightened men. The person with whom I was conversing, assured me that, some ten or fourteen years ago, a wealthy individual of Santa Fé, who had been admitted to the estufas, or vaults at Pecos, and who had profaned the "eternal fire," had been ever since perfectly deranged.

October 7.—Again I visited the ruins of the military chapel, in the plaza, in order to make a sketch of a large tablet that stands back of the altar. This is a beautiful piece of art, and represents the principal Mexican saints. Above all is Santa Maria, then St. Jego, riding over the turbaned heads of his enemies; on the right is St. Juan de Pomasan, the back ground ornamented with a representation of an *aqueduct*; under him is St. Francis Xavier, baptizing the Indians; and in the back ground conical huts, such as are built by the rudest tribes. On the left is St. José, and below him St. Francisco de Santa Fé, standing on two globes. At the bottom of the tablet are two elliptical spaces, containing the following inscriptions:

+

A DEVOCIONDE
SENOR DN. FRANCO. ANT.
MARIN DLVALLEGOVE
NADORI CAPIN GENDES
TE REINO.

IDES VESPOSA
DA. MARIA IGNACIA
MARTINEZ DE
VGARTE ANO
E 1761.

Which we deciphered as follows: A devocion de Señor Dn. Fco. Ant. Maria del Valle, governador Y capetan general deste reino. Y de Su. esposa Da. Maria Ignacio de Ugarte Año Christiano 1761. The church was doubtless erected many years previous.

Scattered about through New Mexico, one frequently meets with fine specimens of art, particularly oil paintings. These were sent over from old Spain; and, at one time, the Spaniards used to send over fine workmen and artists to construct and adorn the churches. My Spanish landlady has a fine picture of a female saint, that I have endeavored to purchase from her; but she conceives that it represents the "virgin santissima." It has a dagger sticking in the heart; this I called her attention to, but she could not be induced to part with it.

Before proceeding further, I deem it proper to introduce, at this place, the notes furnished by Lieutenant Peck, with reference to that portion of New Mexico situated to the north of Santa Fé, and which had been examined by Lieutenant Warner and Lieutenant Peck before I arrived.

These notes form an important portion of this report, which would be incomplete without them. They properly belong to the body of the work, and should, therefore, be placed in it, rather than in an appendix.

"The name Taos, originally given to the region of country embracing the head waters of a river of the same name, has long since, by universal custom, been applied to the particular settlement of San Fernandez. This town is situated at the junction of the two principal forks of the "Rio de Taos," and 4 or 5 miles from the western base of the Rocky mountain range. Like most of the New Mexican towns it consists of a collection of mud houses, built around a miserable square or plaza. It contains a mixed population of 700 or 800 souls, and, besides being the capital of the northeastern department, possesses little to interest the traveller.

Three miles to the southeast is another town, of about equal pretensions, called the "Rancho de Taos;" whilst at about the same distance to the northeast is the celebrated "Pueblo de Taos." This village, interesting in itself as a curious relic of the Aztecan age, is rendered still more so by the recent tragic scenes that have been enacted within its walls. One of the northern forks of the Taos river, on issuing from the mountains, forms a delightful nook, which the Indians early selected as a permanent residence. By gradual improvement, from year to year, it has finally become one of the most formidable of the artificial strongholds of New Mexico. On each side of the little mountain stream is one of those immense "adobe" structures, which rises by successive steps until an irregular pyramidal building, seven stories high, presents an almost impregnable tower. These, with the church and some few scattering houses, make up the village. The whole is surrounded by an adobe wall, strengthened in some places by rough palisades, the different parts so arranged, for mutual defence, as to have elicited much admiration for the skill of the untaught engineers.

It was to this hitherto impregnable position that the insurgents of January 7, 1847, retreated after the skirmishes of Cañada and Embuda; and here made a final stand against the American forces. The history of the bloody siege, lengthened resistance, and final capture of the place, furnishes sufficient evidence of its strength. For weeks in succession they had, in former days, resisted the attack of overwhelming numbers of their wild prairie enemies, and never had the place been reduced by their Spanish conquerors. Built of "adobes," a material almost impenetrable by shot, having no external entrance except through the roof, which must be reached by moveable ladders, each story smaller than the one below, irregular in its plan, and the whole judiciously pierced with loop-holes for defence, the combination presents a system of fortification peculiarly "sui generis."

These three towns constitute the principal settlements in the valley, though there are some scattering houses along the water courses. The valley may be eight or nine miles in length from east to west, and some seven or eight miles in width from north to south, embracing about sixty square miles. Only a small portion of this is under cultivation, or indeed ever can be, as no rain falls here except during the wet season. It is necessary to irrigate all the cultivated land, and the small supply of water fixes a limit, and that a very narrow one, to all the tillable land. In point of soil, the valley of Taos compares favorably with other portions of New Mexico; and though snow is to be seen in every month of the year, on the neighboring mountains, wheat and corn ripen very well on the plains. These last are the staple productions of the country;

though beans, pumpkins, melons, and red pepper, are raised to some extent. The hills are covered with very good grass, which furnishes subsistence to herds of cattle and horses, as well as to fine flocks of sheep and goats. In them lie the principal wealth of the inhabitants.

Taos is, by nature, almost isolated from the remainder of New Mexico. On the east rise the high peaks of the main Rocky mountain chain, whilst a spur of the same range puts out on the south quite to the banks of the Rio del Norte. On the north and west are the high bluffs which mark the beginning of the extensive "llanos," or table lands. A wagon road of some difficulty has been opened through the southern spur, which leads to Santa Fé, though the communication is usually kept up by the shorter mule-road, over the highest point of the spur.

Setting out from San Fernandez at 10 o'clock, we travelled fifteen miles in a southwesterly direction, nearly parallel with the course of "El Rio de Taos," and over an undulating country, the gravelly rolls of which were everywhere variegated with clumps of cedar and scattering piñons. But, from this point to Santa Fé, there is no grass. Crossing a small stream of clear water that flows from a fine spring, we entered a narrow defile and commenced the ascent of the mountain. For 2½ miles the bridle-path is extremely tortuous and rugged, and rendered difficult by numerous fragments of rock. The mountain rises 2,000 or 2,500 feet above the river at its base, and is composed of a hard slaty rock, which breaks down into angular fragments, with sharp cutting edges. The dip of the slaty formations is to the southwest, and nearly vertical. When the broken fragments are removed, the rock presents numerous angular points, which stand out like spikes, and make the ravelling very difficult for animals. The road leads along the summit for some distance, and from it we had a fine view of the cañon of the Rio del Norte, and the extensive table land through which it passes. Far as the eye could reach, the brown and burnt table land stretched northward and westward, unbroken save by the deep channels worn by the running waters.

Turning southward, the bridle-path again descends for two or three miles, leading through a succession of mountain glens, until it emerges into the beautiful valley of El Rio de San Luisio. This is a stream of pure water that flows from the mountains, affording water to irrigate a few fields.

I noticed a few houses in the valley above the crossing, but the village of Embudo is about a mile below. There we found some 300 or 400 of the meanest kind of rancheros, who seem to derive a subsistence from the narrow fields and some few flocks of goats and sheep. There being but little pasturage, they are unable to raise many horned cattle or horses, though their goats manage very well to pick a subsistence from amongst the rocks. We stopped for the night at the house of Señora Valdes, and, after a ride of 29 miles, found goats milk and "tortillas" palatable.

It being the season for making molasses, they were all busy in laying in a winter's supply.

They cut the stalks of the maize, or Indian corn, and, after stripping it of the leaves, pound it with heavy wooden mallets until it is reduced to a pulp; after steaming it sufficiently, they express the juice by means of a rude press, and then evaporate it to the proper consistence in earthen jars. Leaving Embuda in the morning, a half hour's ride brought us to the field on which the gallant Captain Burgwin, U. S. dragoons, so signally defeated the united Mexican and Indian forces, in January, 1847. The road here is so narrow, that two horses cannot walk abreast, and it is flanked on each side by high precipices.

The rocks rise in abrupt masses on either side; on the west terminating in a level table, capped with a sheet of lava. Amidst these confused masses of broken sandstone and lava, numerous cedars and "piñons" have caught root; and here it was that the combined forces lay in ambush to surprise Captain Burgwin's little detachment. After passing the battle-field, the road continues to follow up the dry bed of a mountain stream, until it reaches the summit, 3 miles from Embudo, where it again descends through a similar ravine, to the town of "La Joya." This is the most northern settlement on the Rio del Norte. Just here the stream breaks from the rocky cañon, and the hitherto pent up channel spreads out into a valley near half a mile in width. This marks the beginning of the river settlements, which may be regarded as continuous for 150 miles. On the plain we saw corn and wheat, and, for the first time, found orchards of peach and apricot trees. Melons, too, were abundant, but of inferior quality, whilst hanging in festoons, the bright colored pepper, or "Chili colorado," adorned every house.

Our road now lay along the east bank of the Rio del Norte; sometimes passing through the bottom itself, and sometimes ascending the gravelly bluff. On our left hand the country rolls away to the base of the Rocky mountains, presenting little else than a succession of gravelly hills, whose sides were covered with dwarf cedars. On the right hand, or west bank of the river, the high bluff of the table land reaches quite to the water's edge, some 3 or 400 feet in height. The broken section shows a formation of horizontal sandstone, capped with the dark colored vesicular lava.

This lava sheet appears to have extended over a vast expanse of country. It forms the capping or upper formation of all the table lands in Upper New Mexico, on both sides of the mountains; and its broken fragments are every where strewed along the beds of the streams, giving an air of loneliness and desolation to the scenery. The next settlement, or village, is "Los Luceros," a town of little importance.

Fifteen miles below "La Joya," is a town, or pueblo, named San Juan. The houses here are built of mud and palisades. They appear to have a dry trench, in which a row of palisades, from 6 to 8 inches in thickness, is planted; the interstices of which are daubed with the clayey earth from which they make the "adobes" that are used in building their walls.

They enter into their houses through the top, by means of moveable ladders; a mode, I think, peculiar to Pueblo Indians. The idea may have originated from the necessity of defending themselves against their wild enemies, and is now quite extensively practised amongst the different bands of Pueblos.

These Indians have very fine fields of corn, and I noticed particularly their orchards of peach and plum trees. The Indians cultivate almost all the fruit that is grown in the country. One may usually distinguish an Indian settlement, on approaching it, by the clump of trees; whilst the indolent Spanish settlers seldom take the trouble to plant them.

Just opposite "San Juan," is the mouth of the "Rio Chama," one of the western affluents of the "Rio del Norte." It flows from the northwest, through a beautiful valley, and, like the other streams of the country, has a narrow bottom, along which the people have settled. It is through this valley that the famous mule trail from Santa Fé to the "Pueblo de los Angeles," in California, finds its way to the Cordilleras. Towards the head waters of the river, fine grass is found, and the country is well adapted to the raising of stock; but all attempts at settlement above the "Abiquiu" have failed from the depredations of the Utah and Navajo Indians.

Between Abiquiu and Chama, a small branch enters the main stream, flowing from a group of springs, at which a village is built, called "Ojo Caliente." The largest of these springs is 16 or 18 feet in diameter, and the water in the basin presents the appearance of boiling, in consequence of the continued escape of sulphurated hydrogen gas. Other small springs exist, and from all a highly ferruginous deposite is formed. These waters have been recommended by Doctor Nagle, of Santa Fé, in many chronic diseases, and always with success.

Five miles from "San Juan," is the town of "Cañada," a village of 300 or 400 inhabitants, built on a slight roll of land, one mile from the river. At this point, the Santa Fé road leaves the river again, and, after crossing an elevated tongue of land, enters the valley of the "Rio Tezuque." Several settlements of Spaniards and Indians are to be seen along the stream, the principal of which are "Cuyamanque," and "Tezuque," both Pueblos. From the village of Tezuque, it is but five miles, over a cedar hill, to the town of Santa Fé."

Having, with the aid of these notes, laid before you all that was thought deserving of notice in the northern portion of the department of New Mexico, I shall again resume the daily journal of occurrences, starting from Santa Fé, and visiting the numerous towns, which will be found laid down on the accompanying map.

October 8.—We now (i. e. *Abert and Peck*) prepared for the regular tour through this *departimento*. At 1 o'clock my men arrived from the grazing grounds with the wagon and mules. I procured the necessary provisions, although some of the commissary's supplies were exhausted, but those I purchased. Colonel Doniphan was preparing to march into the country of the Navajoes, and the battalion of Mormons was daily expected. All the money in Santa

Fé was wanted to equip them; I had, therefore, to apply to Mr. Rich, the suttler, who furnished me with what funds I required. I also procured a few simple medicines from our well known surgeon, Dr. Decamp, and thus furnished, with a party of three men, did Lieutenant Peck and I start to make the survey of New Mexico.

We marched this afternoon but six miles, and then encamped at "Agua Fria;" here we were obliged to purchase fodder and wood. On our road we noticed much of the "Scincio filifoliis," cedar, artemisia, and several species of cacti.

October 9.—As we were in want of meat, we were obliged to purchase of the man from whom we had obtained the fodder. He would not consent to receive less than $1 50 for a sheep; $1 is generally the price throughout Mexico.

After a short march, we reached "Cienega," a very well watered place, as its name denotes; the neighboring hills are full of springs; the waters of clear rivulets are rushing across our path in all directions.

We noticed some large "grullas," blue cranes, in the low grounds, and several flocks of wild geese. This valley is well settled; every minute we saw the pastores, driving their flocks of sheep and goats; we saw, too, the invaluable shepherd dogs, assisting their masters. These dogs are remarkable for their sagacity, and are perfectly skilled in the management of the fold.

We had a very windy day, and the dust flew about in great profusion. After a march of seventeen miles, we encamped on "Galisteo creek." The water is very brackish, and the bed of the stream white with saline efflorescences. The country around shows considerable disturbance; the rocks, which are of sandstone, have an easterly dip of from 20° to 30°, and there are numerous volcanic dikes intersecting each other in various angles.

The Rio Galisteo empties into the Del Norte a short distance north of the Pueblo of Santo Domingo, and five miles to the south of the embouchure of the Rio de Santa Fé. In many places the waters are absorbed by the sandy soil, over which they have to flow; but water is always to be found by following up the bed of the stream.

October 10.—The rock around us consists of sandstone, underlaid by purple and white clays, and below these a dark ferruginous clay.

The *yucca angustafolia* was abundant, and we noticed a new species of stramonium.

The first part of our journey led us down the bed of the creek, and was very sandy; ere long we overtook some ox teams; they had been out four days from Santa Fé, and their oxen had had nothing to eat; already three yoke had fallen down from exhaustion, and had been left on the road. After a journey of 17 miles, we crossed the "Rio Tuerto," and encamped near the village of "San Phillippe." At the time Pike visited this country, there was a wooden bridge of eight arches thrown across the river at St. Phillippe, but it has been entirely swept away, and the people are now obliged to wade across. The river runs with great rapidity, and is from three to four feet deep.

Our camp was soon surrounded by Indians. They brought us musk melons, corn, and pumpkins. Their women have a curious habit of stuffing their leggings with wool or cotton. This makes their ancles look very large. We saw large flocks of geese and blue cranes; also some teal.

October 11.—This morning we started up the river for the village of Santo Domingo. After a short march we reached "Cobero," and were most hospitably received by Señor Don José Montejo, who seems to be the proprietor of the whole place. Although he had finished his breakfast, yet he insisted on having another prepared for us. He gave us "los entraños de carnero" and tripe chopped up; also an abundance of "tortillas" and milk that had been salted and boiled. The milk is prepared thus in order to keep it during warm weather from turning sour. One big goblet of water was set in the middle of the table. From this we were all to drink.

I tried to bargain with our host for a mule, but he did not like to take gold in payment, saying "Déme plata blanca."

We now set out for Santo Domingo, passing through unfenced fields of corn and musk melons; we again crossed the river and entered the Pueblo. The houses of this town are built in blocks two stories high. The upper story is narrower than the one below, so that there is a platform or landing along the whole length of the building. To enter, you ascend to this platform by the means of ladders that could be easily removed, and, as there is a parapet wall extending along this platform, these houses could be converted into formidable forts. The front of the upper story is covered with strings of red peppers and long spiral curls of dried melons and pumpkins.

We visited the chapel, and here saw a large wax figure of Santo Domingo. The walls around were covered with oil paintings, some of them the work of excellent artists. Here, too, was a painting of St. Jago, with a long inscription beneath. We noticed on the pannels of the doors singular armorial bearings: one the cross of Santo Domingo, surmounted by a crown; the other a plain cross standing on a globe, two human arms, and these also surmounted by a crown. The Indians who went with us led us through what they called the old chapel. These people, as well as those of St. Philippe, are called Keres or Queres.

Returning, we stopped at Señor Montejos, who gave us one dinner. As his son came in while we were there, I went to him, and, showing my gold, persuaded him to sell me the mule. Some of the pieces were marked 5 *D.*, and others *five dollars.* The first he consented to receive, after I had told him the 5 stood for "cinco" and that D. was for dollars—the American for "pesos." The other he seemed to suspect, for he would not take one of them. Fortunately I had enough that were marked 5 *D.*

Old Montejo offered to sell me a Navajo squaw, who happened to pass as we were bargaining for the mule; and he then related a long story about the depredations committed by the Navajoes; that they kept all New Mexico poor, whilst they themselves rolled in wealth; "son muy ricos, tienen muchos caballos, muchos carneras, muchos bucyos, muchos! muchos! muchos!"

October 12.—The view from this place, is particularly beautiful; on the farther side of the Rio del Norte, a high "mesa" or table land, stretches down the river; just opposite our camp it is 300 feet in height, and at the very ledge rises an ancient ruin, that from its singular position, excites the speculations of the curious.

This is quite a fertile valley, but there is so little of it, and this little the people cannot enjoy, for fear of the Navajoes, who descend from the mountains, and sweep away the "cabaladas" of the Pueblos and Mexicans, who look on unresistingly. As we descended the river, we noticed that the lower strata of the rocks resembled the saliferous formations on the Rio Cañadian.

We passed through "Algodones," and a mile below, through "Angosturas," and after passing over a distance of eight miles, we reached the mouth of the "Rio Jemez." Here we got entangled amongst the "acequias," which were then full of water; but some Indians kindly extricated us. We visited "Ranchito," and saw great piles of corn, the best we had yet noticed; then we crossed the Rio del Norte, and ascended the Jemez, passing a curious pillar of volcanic rock, that rises from beds of distinctly stratified clay. These strata are curved, and in many places the volcanic rock has insinuated itself between the layers.

The Jemez valley is very sandy; the bed of the stream three-quarters of a mile in width, contains, in many places, no water, and when it is found, it is of a dark red color. After marching five miles up the Jemez, we reached the Pueblo of "St. Ana." The village was almost enterely deserted, all the inhabitants being engaged at Ranchito, gathering their corn. We had much trouble to get wood for our fires and fodder for our mules; there was no grass to be seen any where in the vicinity.

October 13.—This morning we did not start until quite late, as it required some time to obtain the bearings of the several towns around. Lieutenant Peck deserves the greatest credit for the assiduity he manifested in the performance of his duties; to-day he clambered up to the high "Mesa," that raised its top 300 feet above us, and fixed the positions of Jemez, San Isadore, and Silla. He was accompanied by a Spanish school master, who teaches the children of the Indians in St. Ana. The domine gave us much information with regard the country; he said that there were some gold mines at the head of the Rio Jemez, and told us that the Indians have much ground under cultivation on the tops of these "mesas." To be sure these "mesas" are covered with coating of volcanic rock that forms a good soil, but at such a height, where it is impossible to irrigate, and in this country where it scarcely ever rains, it seems doubtful that much vegetation should be produced.

At length we started to retrace our steps, and gain the Rio del Norte. We soon crossed the river, which was full of wild geese, and passing through "Ranchito," we marched four miles beyond that place when we arrived at "Bernalillo."

This place exhibits signs of wealth; the houses were larger than any we had yet seen; along the road side were beautiful vineyards, surrounded by high walls of abohes; we rode up to one of them, and looking over, saw some pretty "doncellas" plucking the fruit. They had round flat looking baskets, placed on their heads; these were piled with thick-clustered bunches of the purple grape, from beneath which the bright black eyes of the "doncellas" were sparkling. We could not pass by such a beautiful vineyard, so we stoped and asked for some fruit; some of the maidens, with merry faces, came towards us, when they were suddenly stopped by the gruff voice of a man crying out, that he would himself bring the grapes. We now rode round to the other side of the vineyard; here we saw long rows of vats of ox hides; they looked bloated, as if puffed out with good liquor; in them the grapes are thrown, in order to ferment, after which they are distilled to make the brandy of New Mexico. We bought as many grapes as we wished and then continued our march, until we reached some salt ponds, not far from the town, where we encamped; and here were some large flocks of blue cranes; they kept up a great whooping.

I obtained to-day a specimen of a singular lizard; we saw several large tarantula, and many meadow-larks, flying about amongst the stalks of corn; most of the corn is now being gathered.

October 14.—This morning we took the road lying close to the bluff, and we passed "Sandia," a pueblo, the houses of which are only one story high, but have no entrance except on the roof, where it is sheltered by a curious conical structure, built of adobes. These have an opening on the south side, and one ascends to the azoteas, or roof, by means of ladders. Here we saw some people driving herds of cattle; they were armed with slings, and used them most unmercifully. As the pebbles whizzed through the air, the poor beasts tossed their heads as if in great dread. The sling is mentioned by De Solis, as used by the Aztecs and Tezcucans, in battle.

Our course now led us by the side of a large acequia; this forced us to go some distance from Alemada; at last, we found a place where we could cross, and went directly to that town.

At length we reached a fine vineyard, within three miles of Albuquerque, where we purchased some onions. These vegetables grow to a remarkable size, and form one of the indispensable articles to a Mexican dinner. The adobe walls in the vicinity have the tops covered with cacti, to prevent persons from plundering the vines. We noticed, to-day, great quantities of the "myrtina," covered with large pods, now fully ripe.

The ponds by the road side were filled with ducks, geese, and cranes; it was curious to see the last mentioned birds striding along, with out-stretched necks, as they prepared to take flight.

October 15.—This morning I sallied forth, intent upon killing some of the cranes that were gathering together in the corn-fields near our camp. I soon procured a fine large bird, about five feet in height, of which I made a drawing and took the dimensions. Brant (anser bernicla) are very plenty; we got some of them also.

It is difficult, however, to approach within shooting distance, although they will generally allow one to approach quite close without a gun.

We purchased two sheep from the priest of Albuquerque; he invited us into his house, and gave us some delightful grape brandy. While there, an old Señor from "Padillas" entered the room, with a Spanish version of General Kearny's order for an expedition against the Navajoes. He had with him a long list, including the names of all the principal people in New Mexico who agreed to furnish men to join Colonel Doniphan's command.

While Lieutenant Peck and I were conversing with the priest, he asked us our names and professions. We told him; and, as soon as he understood that we belonged to the corps of topographical engineers, he said: "Ah! I suppose, then, you know something of astronomy and mathematics?" We replied, "A little;" whereupon he got a piece of paper and pencil, and drew several figures, saying, "este es el cuadro?" yes, that is a square; "este un circo?" yes, sir; "y este es un triangulo?" yes, that is a triangle. Then throwing up the pencil, and rubbing his hands in great glee, "Ah! voy que vind son astronomos y mathematicos." Thus, we were pronounced by the padre of Albuquerque to be astronomers and mathematicians. Soon after this discussion of the exact sciences, a very handsome lady, who graced the establishment, entered the room, and he presented us to her; saying: "Estos caballeros son astronomos y mathematicos."

We were well pleased with our visit, and did not leave our friend until late; and he endeavored to make our time as agreeable as kindness and politeness were capable of making it.

Begging his permission, we bade him adieu and started down the river. We soon reached the ford, where we crossed the Rio del Norte, and entered the town of "Atrisco." Here we got fast in an "acequia," and were obliged to get a spade and dig down the banks of the canal before we could get the wagon out. This detained us so long that we were forced to encamp, as it was not in our power to reach the Puerco that night.

This evening we saw a very large flock of sheep and goats. The pastores said that there were 4,000 in the flock. At night, the herdsman built a large fire, and, seizing some of the lighted brands, ran around the flock; the sheep frightened, all turned their heads towards the centre, in the direction of the fire, and are not, after such a scare, likely to stray away during the night.

October 16.—We left "Atrisco," and struck boldly off towards the west, intending to reach the "Rio Puerco," hoping the next day to reach "Cibolletta," where I expected to meet Colonel Jackson, and obtain an escort to protect us in the survey west of the Rio del Norte.

At Alberquerque we were cautioned by the people against the dangers we would run before reaching Cibolletta, as the war trail of the Navajoes runs through the valley of the Puerco; and the Mexicans advised us to travel with great circumspection, and not to make any fires at night.

After marching eight miles, we arrived at a place where the road forked, and taking the plainest, we followed it until it disappeared entirely. It was one of the roads that the inhabitants of Atrisco and Albuquerque travel when they go to get fire-wood. Many roads of this kind, in the neighborhood of Mexican villages, frequently perplex and entangle the travel er.

We now bore due west, and at 4 o'clock reached the "Rio Puerco." After a strict search up and down the river for several miles, we formed our camp near a little pool of water, the only one we could find. The road we came had been very sandy, and our mules were very much distressed by their labor.

The valley of the Puerco is wide and flat, overgrown with varieties of artemisias and course grass, fit only for sheep and goats. The banks of the river are of stiff loam; they are 10 or 12 feet high, and stand vertically. The country around is very much broken with sand hills, that are overgrown with cedar trees, the only kind of timber to be seen, except a few cotton-wood trees that are found in the bed of the river. South 15° west, lies a grand mountain, about 35 miles distant; it has two principal peaks, and its present outline greatly resembles that of the Spanish peaks.

October 17.—We soon found that by continuing a northerly course, we were leaving the road to Cibolleta; but as our duties required us to make a survey of the country, more with the object of finding out unknown things than of travelling known routes, we determined to follow up the Puerco far enough to fix its course, carrying on a system of triangulation, by the means of the many high and well characterised peaks that are scattered throughout the country.

We had a very toilsome march; the sand was from 5 to 6 inches deep; in many places our road was obstructed by a dense growth of artemisias; our progress was extremely slow. At length, about 2 o'clock, our mules gave up and we were forced to halt; fortunately we were near a corn field, and I had them fed with the ears and green leaves of the corn. We searched about, hoping to find some dwelling place near; found no signs of any kind, except a narrow path that had not been trod for a long time. The ravens had right of possession, and had eaten much of the corn, and picked all the seeds out of the big pumpkins that were strewed around us.

We now started off to reconnoitre, and found in the bed of the river, where it was completely hidden by the high banks, a conical hut, composed of light poles covered with boughs of trees and mud; also a corral, but no recent signs of their having been used. We crossed the river and ascended a high bluff, noticing remains of buildings on our way, built of flat stones plastered with clay. Ascending the bluff, we found on its highest portion enclosures of stones; one was circular, 3 feet in height and 10 feet in diameter, and an aperture had been left for a door. Another was elliptical, and its walls had been quite high; besides these, there had been many rectangular shaped structures. We were puzzled to conceive for what purposes they had been built. They were more than half a mile from water, and the approach to them on one side was steep and difficult; on the other side impassable, on account of the rocks breaking off with a perpendicular face 180 feet high. These rocks are composed of sandstone, containing shark's teeth, shells, and bones of fish, many of which we collected. We returned, recrossed the stream, determined to camp here, and to-morrow to follow a little valley that led off to the westward, through which we noticed a faint path. Although the banks of the stream are here 30 feet in height, we yet were so fortunate as to find a place to cross, when we encamped, having found several little pools of water. On the east side of the stream, opposite our camp, we visited a collection of stone ruins; they had been arranged so as to form a square enclosure, whose sides were 200 yards long. Near the town we noticed places of rich black earth, from 2 to 3 feet in depth, that marked the spot where the "corrals" once stood. We afterwards learned that this place was called "Poblazon;" but to all our other questions, with regard to this ancient town, we received the usual Mexican reply of "quien sabe."

October 18.—We arose very early, not knowing but that we should have to march far before we should obtain water. We were at a loss to conceive who could be the owners of the conical hut, and of the cornfields where we staid last night.

Continuing our march westward, we followed the bed of a valley, on each side of which sandstone rocks were piled up, in some places near 600 feet high. These rocks had an anticlinal dip, with reference to the axis of the valley. Our route was strewed with carbonate of lime, in various forms; sometimes beautifully crystalized, at others in amorphous fragments of a waxen appearance. We found, also, fragments of large ammonites, and pieces of inoceramus, and the little knolls around glittered with plates of selenite. This last mineral is very abundant, and we could see it glistening all the day in the sides of the distant mountains. Towards the latter part of the day we entered a volcanic country, our road abounding with fragments of a very hard dark purple and vesicular rock; and to the north of our course, we saw three peaks, or rather columns, of volcanic rock, that seemed to range in a northeasterly direction. They looked so picturesque that I dismounted and made a sketch of them.

We had now been travelling all day, and at length night began to draw on apace; we had not yet found any water, and at last, just as our plight seemed most hopeless, we caught sight of some distant mountains, that, from their course, we concluded must bound a large valley that, without doubt, contained a stream. Soon, too, we caught sight of several columns of smoke ascending vertically; and tracks of cattle, of sheep, and of men, appeared numerous on all sides of us. We now pressed forward, eager to reach a resting place; but suddenly night came upon us, and it was indeed a dark night; we endeavored to follow the path, but were constantly getting off the course; all dismounted and marched along, searching out as well as we could for the path. At last we reached an impassable "arroyo," the banks of which were perpendicular, and about thirty feet above the stream; the men sprung in and hunted some distance up and down the bed of the "arroyo," but there was no water; we could go no further, and were forced to camp here. As the valley around seemed destitute of grass, we let our mules run free, and tried to make our supper, but you may be sure it was a very dry one. At last we heard the grateful sound of dogs barking, and some of the men came in and said that they had seen lights not far off, so we sent for some water; but the men were absent so long that we could not wait for their return. It was now 10 o'clock; we had been travelling since five this morning without food, without one drop of water, and had marched about twenty-five miles, so that we did not lack appetites. As there was no wood, we gathered some of the dry branches of the artemisia; and, having made a fire, roasted a fore quarter of mutton, which two of us despatched without much difficulty, and then sank down to rest, with the intention of drinking deep draughts in the morning.

October 19.—No sooner did the first rays of light dawn than we started off for the village; all the water the men had brought, they had drunk through the night; as our mules were still loose we could not wait for them to be caught and saddled, but started off on foot; and after a walk of a mile, we entered the village of Moquino. Here we were very well received by one of the inhabitants who gave us some delicious milk, and his wife sat down and made cigaritos for us.

This town is situated on a rocky hill that on one side is perpendicular, and about twenty feet high; the place contains near three hundred and fifty inhabitants.

I had given orders for the wagons to start early, but they did not reach the town until near noon. The mules had run off some distance in search of water and grass; and, in addition, some rascally Mexicans had stolen the ropes from their necks.

As our animals were much jaded by the toilsome marches we had made in the last three days, through the deep sands of the valleys, we concluded it would be best to remain here all day and let them rest.

We had encamped by the side of the Rio Pojuate, close to the town of Moquino, and four miles south of the village of Cibolleta, which is also upon the same river. The country around consists of high masses of sandstone, overspread by a bed of volcanic rock. Near Moquino several huge masses of this rock jut into the sky, and from the valley narrowing up to the foot of these peaks there is a blackish mass of detritus of dark purple rock.

The people of the town pressed around our camp, bringing eggs, milk, and cheese made of goats milk. They seemed scarcely to believe us, when we told them of the road by which we had come; and said it was "un camino diabolo." They asked us if we had not noticed a fresh trail that crossed our route. This recalled to our minds that we had seen such a trail, and our having stopped to examine it. When we told them of it, they said that it was the trace of a war party of fifty Navajoe Indians, who could not, according to their accounts, have preceded us more than a few hours. We congratulated ourselves that we had not encountered those Indians. I asked them why the Navajoes did not trouble them. They replied, that they were good friends to the Navajoes.

October 20.—Again we started, leaving our kind friends at Moquino, intending to camp at Laguna. After a short march of three miles, we halted at the town of Pojuate; here we saw several large flocks of sheep and goats. Continuing down the Rio Pojuate, we passed through fields of corn and pumpkins, over which large flocks of cranes were whooping, so that hill and valley rang with the echoes of their cries. After proceeding nine miles, we got upon a fine road that led off in a southwest direction, and six miles farther brought us to the Pueblo of Laguna. We had heard the most romantic accounts of the village of Laguna and the lake in its vicinity; we had heard that this lake was full of water, clear as chrystal, that it was surrounded by small villages, and that the neighboring country smiled in the profusion of the luxuriant productions of this region; that the hill sides were covered with fruitful vines, and the plains loaded with delicious melons: and we were most sadly disappointed. The lake consisted of a little pool, scarce worthy of notice, and the highest cultivated grounds was at the distance of six miles. The houses of this "Pueblo," or Indian villiage, are built of stone and are plastered over with mud, (the number of inhabitants is seven hundred,) they are generally two stories in height, and have ladders by which one ascends to the second floor in order to gain admittance. There is a chapel here, which has the interior painted with curious Indian ornaments, in which they have used the pure red, blue, and yellow. The town is situated on a limestone bluff, that is about thirty feet in height; the country around consists of high masses; a valley runs off towards the north to a distance of thirty miles, in this valley the town of Covero is situated; pretty good place for grass and water; Colonel Jackson's command is at this moment encamped there, but as it would require two days to go there and to return again, we concluded to proceed without any escort, as we had already passed over the most dangerous country that we would have to examine.

On the road we saw many wooden crosses, held firmly in an upright position by heaps of stones piled around their bases. These sacred symbols were not erected by the road side to mark the place of graves or bloody deeds, but to remind the traveller to pray for the soul of the person by whose friends these symbols were erected. The road sides, throughout the province of New Mexico are, in many places, lined with these crosses. Near St. Phillipe, we saw one with a piece of board nailed near the top, on which was the following inscription: "Passer-by, pray for the soul of Doña Maria."

In the evening we were gratified with a visit from some Americans, amongst whom were several old friends. They came from "Covero," and were on their way to Santa Fé.

To-day I killed a beautiful snow-white goose, ("anser hyper- [illegible] borregos,") large flocks of them are found feeding on the bed of the "Rio St. Juan," which river runs close by "Laguna."

The Indians here have numbers of turkeys and chickens. I also saw some tame macaws, that must have come far from the south. The "Pueblos" have a great fancy for taming birds, and in this respect resemble the ancient Aztecas. But they have lost the art of making the beautiful feather embroidery, spoken of by Clavigero, De Solis, and others.

October 21.—Having risen early, and bade adieu to our friends, we set out in a southwestern direction for the town of "Acoma." We were very glad to get away from Laguna, for being encamped near the town, we were surrounded by crowds of children, who, impelled by curiosity, flooded the camp. They did not attempt to steal anything, but they impeded the men in the performance of their duties.

For the first six or seven miles, until we reached some cornfields, we had a broad road before us. The rest of the route was marked by sheep paths. When near "Acoma," we met some Mexicans, with several "burros," laden with peaches, water mellons, and dried fruit, which they were conveying to Colonel Jackson's command at "Covero." They had purchased the fruit of the Pueblos of Acoma, for a mere trifle, and sold the peaches to us for a real the dozen.

We noticed to-day a variety of a yucca, whose leaves are convex on the under side, and concave on the upper, and much broader than the leaves of the Y. angustifolia. On the cedar trees we found a species of mistletoe; it was leafless, and had pink berries that tasted like cedar berries.

We travelled through a level valley, in which we saw many flocks of sheep grazing, attended by Indian pastores and their ever watchful dogs. I tried to purchase some sheep from the people, who were guarding them, but I could not induce them to make any bargain until a chief, attended by some eight or ten Indians, rode up. He appeared to be a wealthy man, and we soon agreed about the purchase. He said that his party were going to Santa Fé; they were armed with bows and arrows, and guns. They reminded me very much of the Camanchees, except that these Indians wear long woollen stockings, of their own manufacture.

We were now quite close to our goal, the ultima thule of our advance towards "el sol poniente." On our right hand, stretching away to the south, is a magnificient "sierra," that raises its summits several thousand feet, where they mingle with the clouds. From the valley in which we journey huge blocks of sandstone rise, the tops of which are horizontial, and the sides of which reach perpendicularly to the height of 300 or 400 feet above the plain. This sandstone is very hard, it breaks in long prisms, whose angles seemed to resist the rounding influence of the weather. This rock exhibits tints of yellow and of light red.

After a journey of 15 miles we arrived at "Acoma." High on a lofty rock of sandstone, such as I have described, sits the city of "Acoma." On the northern side of the rock, the rude boreal blasts have heaped up the sand, so as to form a practical ascent for some distance; the rest of the way is through solid rock. At one place a singular opening, or narrow way, is formed between a huge square tower of rock and the perpendicular face of the cliff. Then the road winds round like a spiral stair way, and the Indians have, in some way, fixed logs of wood in the rock, radiating from a vertical axis, like steps: these afford foothold to man and beast in clambering up.

We were constantly meeting and passing Indians, who had their "burros" laden with peaches. At last we reached the top of the rock, which was nearly level, and contains about 60 acres. Here we saw a large church, and several continuous blocks of buildings, containing 60 or 70 houses in each block, (the wall at the side that faced outwards was unbroken, and had no windows until near the top: the houses were three stories high). In front each story retreated back as it ascended, so as to leave a platform along the whole front of the story: these platforms are guarded by parapet walls about three feet high. In order to gain admittance, you ascend to the second story by means of ladders; the next story is gained by the same means, but to reach the "azotia," or roof, the partition walls on the platform that separates the quarters of different families, have been formed into steps. This makes quite a narrow stair-case, as the walls are not more than one foot in width. Lieutenant Peck and myself ascended to the azoteas, and saw there great quantities of peaches, that had been cut in half and spread out to dry in the sun.

We entered some of the houses, and the people received us with great gladness. They brought out circular baskets, nearly flat, these were filled with a kind of corn bread, or "guayave." It bears a striking resemblance to a hornet's nest; it is of the same color, and is as thin as a wafer. The "guayave" they crumbled up between their fingers, and put into a second basket, from which we ate. Each family occupies those rooms that are situated vertically over each other; the lowest story is used as a store room, in which they put their corn, pumpkins, melons, and other eatables. The fronts of their houses are covered with festoons of bright red peppers, and strings of pumpkins and musk melons, that have been cut into ropes, and twisted into bunches to dry for winter use.

These people appeared to be well provided with all the necessaries and luxuries that New Mexico affords. They are quiet, and seem to be happy and generous. As we walked through the town, we saw them unloading their "burros." Quantities of fine large clingstone peaches were spread out on the ground, as the owners were dividing the loads, so as to carry them up the ladders. And whenever we approached, they would cry out to us, "coma! coma!"—"eat! eat!" and point to the peaches. They generally wear the Navajoe blanket, marked with broad stripes, alternately black and white. Their pantaloons are very wide and bag-like, but are confined at the knee by long woollen stockings, and sometimes buckskin leggins and moccasins. The women stuff their leggins with wool, which makes their ancles look like the legs of an elephant.

These people cannot have associated much with the Mexicans, for they scarce know a word of the language. This may be owing to an old Spanish law, referred to by Mr. Murray, the geographer; which law, confined the Indians to their villages, not allowing the whites to visit them, nor were they admitted into any place inhabited by whites. They however seem to possess a smattering of the Roman Catholic religon, their dwellings are often crowned with the symbol of the cross; and, as I have already mentioned, one of the first objects that strikes the eye is a large chapel with its towers and bells.

We now returned to our camp in the valley below; although we had ridden up, yet we did not feel inclined to run the risk of descending the spiral stairway, on other feet than those of our propria persona.

At one place, just after passing the narrow defile, near the tower rock, a wall has been raised by the Indians to prevent accidents from persons falling over the precipice. I took a sketch of this portion of the ascent.

When we reached the plain we saw large flocks of sheep, herds of cattle, and droves of horses. We had encamped by the side of some holes that the Indians had dug; these, they said, yielded a constant supply of water; and between our camp and the city, there was some water that ran along over the bed of a stream for a few yards, when it disappeared beneath the sand. This furnished the inhabitants with drinking water; I was obliged to scoop a hollow in the sand before I could get my tin cup full. This running water is three-fourths of a mile from the foot of the rock.

To look from our camp upon this town, as it sits on the flat top of the rock, which rises so abruptly from the plain, and catch sight of the little windows, surrounded with white washed squares, one is struck with the resemblance of the buildings to a fort. The mind recalls the images it has formed of those fortresses that were observed by the army of Cortez; such as the village of "Capistlan," in the mountains of Guastepeque, described by Solis, as "a town strong by nature, seated on the top of a great rock, difficult of access, the way so steep that the Spaniards could not use their hands for fear of their feet slipping." In a second place, he describes the attack of another fortress: "a considerable fortress, on the highest eminence," in the same mountain, thus: "the Indians feigned to be in some disorder, that they might entice the Spaniards to the most dangerous part of the precipice; which they had no sooner effected, than they returned with most horrible cries, letting fall from the top such a shower of stones, and entire rocks, as barred up the way, after having borne down every thing it met with." Bernal Diaz, the doughty captain, is obliged to retire to a hollow rock, and advise the rest to halt and leave the paths, it being impossible to go on without falling into danger.*

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* And [illegible]

In the evening, at a quarter past ten o'clock, a meteor of dazzling splendor dashed across the sky; its path was perpendicular to the horizon, and passed through the head of the constellation Draco; the brightness was such as to eclipse the light of the candle by which I was writing; five minutes afterwards I heard a report like that of a distant cannon.

October 22.—We now turned our faces eastward, as Acoma is the most western of the New Mexican towns. Zuñi, which, in a direct line, is said to be but 80 miles to the west, is situated on the tributary waters of the "Rio Gila."

Our mules had wandered off a great distance, and, owing to the difficulty of catching them, we did not leave Acoma until 10 o'clock. We then started for "Rito," a Spanish town. I remained behind some time, in order to sketch one of the passes to the town of Acoma. This one only is practical for foot passengers. There are, besides, two others, one of which can be passed on horseback, but the principal one is that by which we went up yesterday.

Our course, for the first two miles, led us off in a southeastern direction. In this short distance we descended rapidly, and having gotten safely over a dangerous road, we found ourselves much lower than we were yesterday. We had reached a second level, below that of the light red sandstone of Acoma. The high escarpments between which we passed, presented fine views of the superposition of the different strata. Uppermost is the hard and compact sandstone, such as forms the rock of Acoma; then comes a hard whitish clay; then a dark sandstone, of a red color; and finally, a reddish brown, ferruginous, and sandy clay.

We now travelled northeast, and parallel to our route from Laguna to Acoma; and although not more than four or five miles distant from our course of the preceding day, yet the country presents a new aspect. Having reached this second mesa, and being forced by our route to travel close to the foot of a high escarpment, we could not see over it, and therefore could not discover any of the points we had already noticed. Several times the trail we were following gave out; at last, quite late, we struck a fresh trace of a carreta. We followed this trace until night closed upon us. There was no moon, and dark clouds dimmed the stars; we all dismounted, and in silence endeavored to keep upon the path. Aided by frequent flashes of lightning, we kept the track, and urged on our jaded animals, hoping soon to reach a stream. At length our wagon arrived at a slight sandy acclivity, where the mules, worn out by the difficulties of the road, completely broke down. Here we encamped; on a sand knoll we pitched our tent, and then sent out one of the men in search of water, for we had not seen one drop since we left our morning's camp. We now lit a cheerful fire of artemisia, and then sat down to a supper of delicious ribs of roasted mutton, such as is only found in the mountain region of New Mexico. We were hardly comfortably seated, when a terrible squall of wind arose, accompanied by a slight rain. In the midst of the squall our tent blew over, and we were obliged to refix it several times. We luckily had some extra mule pickets that, were not in use; they were very long, and by their means we succeeded in erecting a second shelter; but everything was covered with sand, and we felt far from comfortable.

In a short time, the man we had sent out returned unsuccessful; so we finished our suppers without coffee, without even a cup of water. The poor mules, that had worked so hard all day, we were obliged to fasten to the wagon; here they remained all night, on the barren sand, where not one blade of grass was to be seen. We dared not let our mules loose, knowing that when urged by thirst, they will wander off until they find water.

October 23.—We arose when the first streak of grey light appeared in the east, and, without stopping to prepare our breakfast, we resumed our toilsome march. The poor starved and thirsty mules plodded pokingly along, in rather a doleful plight.

Before proceeding far, I caught sight of the peaks of volcanic rock that tower above the town of "Moquino." Immediately after, we got a glimpse of a distant pool of water glimmering in the sunlight. I directly ordered the command to proceed to the pool and to encamp, while I rode over to speak to some pastores who were watching their flocks close by. From them I learned that the ruins we saw near the water were all that now remained of the town of "Rito," which town they said had been deserted by its inhabitants some years since, because those people who lived higher up on the "arroyo de Rito" cut off all the water of the creek in seasons when they wanted to irrigate their lands, thus depriving the people of Rito of it, who needed it most at the same season, for the same purposes.

We encamped close by the town; the large pine rafters of the deserted houses furnished us with fuel. In the afternoon we visited the town. The houses were all of them built of stone, covered with mud, and neatly whitewashed. Here we found a neat little chapel, and the house of the priest still remained in pretty good condition. One feels sorrowful to see so much labor thrown away, so much useful material left to the ravages of destructive time; but our fires burned so cheerfully, that all regrets were consumed in the lively flames. We concluded that it would be a fortunate occurrence to daily encounter old ruins. We remained here all day. We had plenty of wood and of water; the pasturage was good, and our mules needed time to rest and recruit their strength.

In the afternoon, we saw some commissary wagons returning from Covero to Albuquerque. We sent over to them, in order to ascertain if they had any letters for us; for we had desired to have all our letters forwarded from Santa Fé as soon as they arrived there, as those travelling through the country could easily find our whereabouts on enquiry.

Towards dark a party of five or six Mexicans halted near us, and soon more of the rafters from the old ruins were crackling in the flames. These men said that they were going to fight the Navajoes, and that many more of their "compadres" were already on the way.

October 24.—At eight o'clock, we left the ruins of Rito, and crossed the "Arroyo de Rito," it is from four to five feet wide, and three inches deep; it has a sandy bed, nearly twenty yards wide, that is evidently covered with water at certain seasons of the year. The valley along which our road runs is seven miles wide, and is covered with good grass.

As we continued our journey, we had on our left a ragged toothed sierra, which the distance mellowed to the same tint with the sky. Close to us rose a high mesa of dark red sandstone, that was based on the compact whitish clay; and wherever we could catch a glimpse of the strata above, we found it to present a greyish white hue; and when we reached it, that it was composed of clay and sand. The first eight miles of the road was compact and firm; at its termination a wild looking cañon extended into the mountain. Here water can be got, but the path is so strewed with huge fragments of rock, that constantly block the way, as to prevent the watering animals there. The first portion of our road was strewed with pieces of petrified wood, full of silicious particles, which glistened in the sunlight.

On one side of the road, we found some wagon-wheel spokes, we collected them with great care, intending to manufacture them into pins for our tents, and pickets for the mules. Hard wood cannot be obtained in the whole of New Mexico. The country around us seems to produce no wood except the cedar. Among the plants we noticed the yucca angustifola, and several varieties of the artemisia.

After a journey of twenty miles, we encamped on the "Rio Puerco," about nine miles above the point at which it receives the waters of the "Arroya de Rito," or as it often called "El Rio de San José."

The provision wagons had arrived here only a little time before; one of the teamsters had gone down the river in search of water, so some of us went up the river, and at a distance of two or three miles found some water, that was quite thick with mud. This we collected and put by, to allow the mud time to precipitate. We had brought with us enough water for our immediate wants, so we determined to let the muddy water rest until the next morning.

On looking at the map, the Rio Puerco appears to be quite a formidable stream. A river 140 miles long, with a valley of seven or eight miles wide, through which it flows, would lead one to think that here was a fine country for pasturage, and a plenty of water. Not so, for we are now but forty-eight miles above its mouth, and there is no water; and the valley, deep with sand, only nourishes artemisias, yucca, and cacti. The banks of the Rio Puerco are perpendicular, and often twenty to thirty feet high; showing that, at some seasons, great bodies of water must rush along its bed.

The men with the ox-team said that their oxen would not be able to get over the top of the dividing ridge between us and the Rio del Norte, unless they travelled on now, for want of water so soon destroys the strength of oxen. They therefore bade us adieu.

October 25.—When we arose this morning, we found the ground covered with a heavy frost, and there was a skim of ice on the water we had put aside to settle. Indeed we felt quite numbed with the cold, but a cheerful fire soon restored the genial circulation of the blood.

We soon started, and, before proceeding far, overtook the wagons; they had not been able to reach the dividing ridge, on account of the exhausted state of the oxen. As this ridge was but 5 miles from the "Puerco," we soon attained it, and once more caught sight of the Rio del Norte, and the grand chain of mountains on the farther side of the river. Far away to the south, we saw this magnificent stream winding along, its apparent continuity broken by its meanders and its islands, so that it looked like a chain of silver lakes.

On the ridge, we collected enough wood to last a couple of days, for no wood is to be obtained within less than 9 or 10 miles of Albuquerque, where we should stay a couple of days, as it was absolutely necessary that our mules should have some rest. We had travelled at the average rate of 15 miles a day; thrice we had been without a drop of water after a long day's journey, as at Moquino, at Rito, and at the Rio Puerco. Although some of the road was excellent, such as from Cibolleta to Laguna, yet, for the greater portion of our route, we had travelled through deep sands, without a road; through rude wilds, without any guide.

As we entered the valley of the Rio del Norte, we met Major Edmonson, with his command, on their way for the Navajoe country. Most all of his teams had broken down, and he was obliged to stop at the "Rancho de Atrisco," in order to recruit them.

We heard, to-day, some rumors of General Taylor's battle at Monterey. These rumors came up by the way of Chihuahua. They state the loss of the Americans at 300, while that of the Mexicans was 1,200. As the report came through Mexicans, we judged the result must be even more favorable to our arms than these rumors represented.

October 26.—This morning we received notices of an incursion of the Navajoes, a few miles below us. The pastores left their flocks and fled, while a large body of Indians, rushing down from the mountains, where they had secreted themselves during the night, devastated the whole valley, killing all the human kind they met, and sweeping off the flocks and herds of the Mexicans. No less than 5,000 sheep were carried off within 20 miles of the great city of Albuquerque.

In the afternoon, we went to pay our respects to the padre; he received us most kindly, although seated at the dinner table. He insisted upon our entering, and then introduced us to his friends as the mathematicians and astronomers. I am under great obligations to him for changing some gold for me. Mexicans in general do not like to receive anything but "plata blanca."

We heard this evening that the American traders were cut off from all intercourse with Santa Fé, by a body of Mexicans who had come up from "El Passo." Captain Burgwin and Captain Grier marched down this morning, in order to assist the traders.

October 27.—We did not get off this morning until 10 o'clock, One day's rest always causes such a break in the regular chain of previous habits as is difficult to repair.

When we crossed the Rio del Norte, I met Lieutenant Noble, of the 2d dragoons; he confirmed the reports that Captain Burgwin and Captain Grier had gone down the river to assist the American traders, who were threatened with an attack by a body of Mexicans from El Passo. We also heard that Mr. James McGoffin had been captured, and taken as a prisoner to Chihuahua.

Continuing our journey down the east side of the Rio del Norte, we soon arrived opposite the town of "Pajarito." Here the little "Rio San Antonio," which takes its name from the town near its source, yields up its waters to the grand river of Mexico.

As I attempted to cross the "Rio San Antonio" my mule sank in a treacherous quicksand so suddenly that I could not throw myself out of the saddle before she was half covered. I managed to scramble to the bank, from whence I started, while the mule, relieved of my weight, struggled to the opposite side of the stream, which she reached in safety.

After a march of 11 miles, without seeing a single town on the east side of the river, we recrossed the Rio del Norte, and encamped at "Padillas." This town is near the foot of a high mound, and is wholly Mexican. While travelling about New Mexico I tried several times to gain information with reference to the population of the towns, the numbers of the flocks and herds owned by the inhabitants. I have asked how much corn and how much wheat the land yields to the "fenegada," but never obtained other than the reply of "quien sabe." I would therefore have been obliged to content myself with rude approximations as to the number of inhabitants, had I not fortunately been enabled to get hold of a document from the State department at Santa Fé, which, coming in an official form, is likely to present a correct statement. It is so intimately connected with my report that I will at once introduce it.

Extract from the records in the State Department at Santa Fé.

[Translation.]

Mariano Martinez de Lejanza, brevet brigadier general and constitutional governor of the department of New Mexico, to its inhabitants sends greeting, that the assembly of the departmet has agreed to decree the following:

The assembly of the department of New Mexico, in discharging the powers which are conceded by the 134th article of the organic law of the republic, decrees the following;

Division of the department.

ART. 1. The department of New Mexico, conformably to the 4th article of the constitution, is hereby divided into three districts, which shall be called the Central, the North, and the Southeast, The whole shall be divided into seven counties, and these into three municipalities. The population, according to the statistics which are presented for this purpose, is 100,064. The capital of this department is Santa Fé.

Central district.

Art. 2. This district is hereby divided into three counties, which shall be called Santa Fé, Santa Ana, and San Miguel del Bado. The capital of these three counties shall be the city of Santa Fé.

Art. 3. The first county shall comprise all the inhabitants of Santa Fé, San Ildefonso, Poguaque, Nambé, Cuyamanque, Tezuque, Rio Tezuque, Sienega, Sieneguilla, Agua Fria, Galisteo, El Real del Oro, and Tuerto. The county seat is Santa Fé. The number of inhabitants is 12,500.

Art. 4. The second county shall comprise the inhabitants of Rayada, Cochité, Peña Blanca, Chili, Santo Domingo, Cobero, San Felippe, Jamez, Silla, Santa Ana, Angostura, and Algodones. The number of inhabitants is 10,500. The county seat is fixed at Algodones.

Art. 5. The third county shall comprise the inhabitants of Pecos, Gusano, Rio de la Vaca, Mula, Estramosa, San José, San Miguel del Bado, Pueblo, Puerticito, Cuesto, Cerrito, Anton Chico, Tecaloté Vegas, and Sepillo. Inhabitants, 18,800; county seat shall be San Miguel.

Northern district.

Art. 6. This district is divided into two counties, called Rio Arriba and Taos. The capital is Las Luceros.

Art. 7. The county of Rio Arriba comprises the inhabitants of Sata Cruz de la Cañada, Chimayo, Cañada, Truchas, Santa Clara, Vegas, Chama, Cuchillo, Abiquiu, Rito Colorado, Ojo Caliente, Ranchitos, Chamita, San Juan, Rio Arriba, Joya, and Embuda. The county seat is Los Luceros. The number of inhabitants is 15,000.

Art. 8. The county of Taos comprises the inhabitants of Don Fernandez, San Francisco, Arroya Hondo, Arroyo Seco, Desmontes, Sineguilla, Picuries, Santa Barbara, Zampas, Chamizal, Llano, Peñasco, Moro, Huerfano, and Cimmaron. The county seat is Don Fernandez. The number of inhabitants amounts to 14,200.

Southeastern District.

Art. 9. This district is divided into two counties, called Valencia and Bernalillo. The capital is Valencia.

Art. 10. The county of Valencia comprises, Valencia, San Fernando, Tomé, Socoro, Limitar, Polvaderas, Sabinal, Elames, Casa Colorado, Cibolleta, Sabino, Parida, Luis Lopez, Belen, Lunas, Lentes, Zuñi, Acoma, and Rito. County seat, Valencia. Number of inhabitants 20,000.

Art. 11. The county of Bernalillo comprises, Isletta, Padilla, Pajarito, Ranchos de Atrisco, Atrisco, Palareres, Albuquerque, Alemeda, Corrales, Sandia, and Bernalillo. County seat, Bernalillo. Number of inhabitants 8,204. The whole number of inhabitants of the district, 28,204.

This decree shall be made known to the governor, that he may carry it into execution.

JESUS MARIA GALLEGAS,
President.

Juan Baptista Vigil y Maris, *Secretary.*

By virtue of the premises, I command that this act be published, circulated, and made known, to all whom it may concern, for its most active observance and fulfilment.

Palace of the government, Santa Fé.

MARIANO MARTINEZ.

Jose Felix Jubia, *Secretary.*

June 17, 1844.

October 28.—Last night we had much rain and wind, and this morning light showed us a sky covered with grey and misty clouds, that hang close to the horizon, without any sign of clearing away. We are, therefore, constrained to give over the idea of leaving this place to-day. The weather is quite cold. The wild geese are flying about us in great numbers, and keep up an incessant "*honking*."

About 2 o'clock it commenced clearing off. We started out to kill some geese. The "anser canadiensis" and "A. bernicla," are very abundant. We also saw many of those beautiful snow white geese, called "A. hyperboreus," snow goose, by way of eminence. But the geese were very shy, as the Mexicans said, "Los anseres eran muchos sabios."

In the afternoon we met a young Mexican who had travelled through the United States. He commenced speaking of the powerful steamboats, the rapid rail-cars, and mighty rivers he had seen; and, pointing to the Rio del Norte, he said, "this is the *Rio Grande* of Mexico, but in the United States it would be muy poquito, muy poquito."

October 29.—This morning Lieutenant Peck and I started for "Peralta," leaving the wagon and most of the mules at Padillas; we thus saved a day's march, as we could now return before night, and I wished to start from this place, in order to explore the country around "Chilili," and all the inhabited portion of New Mexico lying to the eastward.

We continued down on the west side of the river, until we reached the Pueblo of "Isletta," quite a large town. Here we saw extensive vineyards, with long sheds, under which were ranged huge bloated bags of ox hide, where several of the Indians were at work, distilling the liquors from the vats.

We now forded the river, and after a journey of 9 miles, reached the village of "Peralta." This town is situated on the southern site of a large round grove of cotton-wood trees. There were several flour mills near, and the houses are well built; that of Señor Otero is as fine as any in the department of New Mexico.

At Peralta we met with two very polite and communicative gentlemen; they freely answered our interrogatories, and kindly furnished us with some pamphlets and several copies of the "Republicano," a paper published in the city of Mexico. Three miles to the south, is the village of "Valencia," the capital of the county of the same name. Directly opposite to use, on the west side of the river, is the town of "Lentes," and one and a half miles south of it, the town of "Lunes." We now returned to "Padillas," and on our way stopped at "Isletta;" we entered some of the houses of the Indians, who had numbers of buffalo robes, which they offered to trade. They had also apples and bunches of grapes—the latter fruit they hang up on the rafters, where it does not decay as it would do in the United States. In fact so pure is the air, and so free from all tainting influences, that meat may be hung up in the same way, at any season, without fear of being spoiled. One of the favorite dishes of the Mexicans consists of meat that has been dried by simply hanging it over cords that are stretched beneath the "portales" of the house for this purpose. The Indians also preserve their melons for some time, plucking them before they are entirely ripe, and suspending them by twine manufactured from fibres of the yucca or palmillo.

In good season we reached "Padillas," when I at once called to see Señor Don José Chavez, to inquire of him when I could procure a guide, when he kindly promised to send me one of his peones on the coming morning.

October 30.—We again crossed the river, and then continued onwards, in a course almost due east, for the mighty range of the Sierra Blanca. The first three miles was up a sandy acclivity, which gave our wagon mules some severe labor; but, having at last reached the top of the ascent, we found a fine compact road, over a plain composed of clay and gravel. For the first twelve miles the road continued its direct course; at length we began to approach "el cañon infierno," when our road leads us over beds of limestone. This was full of little patches of hornstone, which were varied with cracks that were now filled with calcareous matter, so that the patches resembled ludus helmontii, or septaria.

The road, on both sides, was thickly studded with several species of yucca and cacti. The mountains were covered with snow, and we soon began to feel a great difference in the temperature of the air as we proceeded.

Having marched sixteen miles, we entered the "cañon infierno;" there was a clear stream of cold water, which, as we followed up to its source, we found to be, in many places, entirely absorbed by the sand. Along its bed grew many cottonwood trees and grapevines; they both show the effects of the late frosts; the brilliant yellow of their leaves forms strong contrast with the sombre green of the cedar and piñon, with which the banks of the stream are embroidered.

Stupendous masses of green stone that were once seething in the bowels of the earth are piled up, rock upon rock, until but a narrow strip of sky can be seen over head. These rocks are traversed, in all directions, by narrow seams of milky quartz. Various species of cacti and yucca spring forth from every crevice where enough earth has collected to afford them nourishment, and the cedar and piñon stretch out their boughs above these plants, as if to prevent the sun from evaporating the little moisture they contain.

We encamped, after having proceeded five miles into the very heart of the cañon; here the rocks were so steep that not one spot could be found where we might pasture our mules; we, therefore, cut down boughs of cedar, but the animals only nibbled them a little, and we were forced to tie them fast to the wagons to prevent their going off in search of pasturage.

October 31.—Last night we had a terrible storm; it consisted of a succession of great gusts of wind, accompanied by rain, hail, and snow; the wind roared through the cedars on the mountain side, with the sound of a grand water fall. Our tent trembled beneath the terrific force of the blast that swept backwards and forwards through the cañon, and the deep gorge sent forth fierce howlings.

Morning at length dawned, and we arose shivering with cold, and gathered around the fire. Our Mexican guide had been obliged to walk about all night, in order to keep warm, for the fire went out during the early part of the night. Our mules had had nothing to eat, we, therefore, hurried off quickly, hoping before long to reach a patch of grass, where we could halt. We soon met with some of Señor Chavez's wagons, which had been sent out to procure pine logs fit to make rafters for some new buildings.

Mixed with the cedar and the fir tree, we saw some stunted oaks, "Q. olivæ formis;" also some fine specimens of the pitch-pine. Amongst the shrubs, there is a species of holly; it bears scarlet berries, on which the robbins, flickers, and stellar jays feed with great delight. We noticed numerous signs of the bear, and our guide said that they were of the black bear.

As the road was rough, we had to be careful lest the wagon should upset. Before we had gone ten miles we reached a level piece of ground; here we halted and built a large fire, around which we gathered, while the mules were busily engaged in appeasing their hunger.

After halting an hour we resumed our march, and found the country more gentle in its aspect, and much easier to travel. We now commenced descending slowly, for we had crossed the dividing ridge; the ground was in many places covered with snow, except where it was exposed to the rays of the sun. The air was biting cold. At length we entered the road that runs from Albuquerque to the famed "salinas," or salt lakes. These lakes afford salt for the whole of this region. Our course was very direct, and as the chill winds came rushing along to meet us, we found ourselves exposed to their full sweep, and we experienced the cold of a midwinter day.

Near three o'clock we formed our camp in the densest grove of pine trees that we could find. Having turned our hungry animals loose to graze, we made a huge fire of pitch-pine, and the rezinous wood soon gave forth fierce flames and genial warmth. We had marched 15 miles—cold and fatigue had well prepared us to enjoy such a fire as we built. Before long, a number of Mexicans, with eleven "carretas" loaded with corn, stopped and encamped, not farther from us than a stone's throw. We went to see if they had any vegetables to sell, and learned that they were from "Tagique," and were going to "Albuquerque." They offered us some dried pumpkins, for which they asked a most extravagant price. These Mexicans work for three reals a day, (37½ cents,) and yet will often insist on having that price for a single stick of fire-wood, which they obtain for the cutting, and which can be cut in a few minutes. Although the Mexicans seem to be so desirous of obtaining money, yet they do not know its true value or use. We often heard of men of the highest class, whose single desire seemed to be to collect gold and silver and stow it away. The major portion of the people live not one bit better than the negroes on a plantation in our southern States; and the rico of the village, like the planter, possesses everything; no one else owns a single sheep.

I have been much surprised by the many men and children of the lower class that I have met with who both read and write; in fact, all that we questioned seemed to be educated, thus far, but they have no books; I only recollect to have seen a Roman Catholic catechism at Padillas. Many of the sons of the ricos are well educated; we saw several who had been at Union College, St. Louis. They speak French and English, and understand their own language grammatically.

November 1.—We found this day much more pleasant than the preceding one, and soon resumed our march, our course still direct, when at once, before we had gone more than four miles, we caught sight of the extended plain, which may be considered as unbroken from this place on to the land where the timber grows. To look upon this boundless extent of prairie, fills the mind with ideas, not of beauty, but of grandeur; and when, with the mind's eye, we travel still further over successions of these boundless plains, one is seized with a feeling allied to pain, as the mind expands to comprehend such vastness. Such were the impressions of the scene before us; and when we looked back, we saw the hoary heads of the lofty and snow-capped mountains, to mid-height clad with sombre cedars, while round their base, and near to us, the rugged rocks were piled, as if the wild disorder in which nature had first thrown them had been anew confused by subterranean convulsions.

The bearing of the "Lagunas Saladas," is S. 62° E., which is the same with the general bearing of the Albuquerque road since we first struck it. A slight ridge that rises beyond these lakes forms the dividing ridge between the interior basin in which they are situated and the valley of the Rio Pecos. Two miles further brought us to the deserted village of "Chilili," from this place the road continues on in the course to the salt lakes, which are 25 miles distant. The town of Chilili is one of modern construction; the walls of the houses are formed by placing logs upright in the ground, and plastering them over with mud. The roofs of the houses are flat, and composed of the same materials. The town was deserted some years ago, on account of the disappearance of the stream of water that supplied the place. Part of the inhabitants have formed a new town higher up on the course of this fickle stream. We therefore started for this second town. Having gone a couple of miles we found the village, which is one of the poorest we have seen. Crossing the stream, which is here full of water, we reached the road that runs from Old Chilili to Tagique; the two places being about 16 miles distant from each other. We soon encountered flocks of sheep containing several thousand; we stopped to purchase some, and found them to be remarkably fat. The grazing grounds to the east of the mountains afford excellent pasturage; and this basin, around the salt lakes as well as the valley of the Pecos, are deservedly celebrated.

While making my selections from the flock of sheep, Lieutenant Peck, who had ridden on a short distance, encountered two Mexicans; no sooner did they see him, than they dismounted, and commenced examining the loading of their carbines. Lieutenant Peck immediately drew forth the pistols from his holsters, whereupon the men held a council of war, and concluded to cry out "Amigos!" and then advanced, saying that they had mistaken him for a Navajoe.

At last we reached "Tagique," and hunting below the town without finding any water, we were forced to encamp higher up on the stream, where we found an abundant supply. Our march, since starting, was 22 miles.

At this town we met Mr. E. J. Vaughan, a Missourian. He had, he said, been extremely anxious as to his safety in remaining here, for an insurrectionary feeling was rife through the whole country, and particularly at this out-of-the-way place; and this feeling was not a little excited by messages from persons in Chihuahua, stating that they were about to come up by this road, with 11,000 men, and with the assistance of the New Mexicans would destroy all the detestable heretics. And he accidentally heard some of the inhabitants of this town arranging the partition they would make of his goods; for he was here trading with the people for corn, and the wagons we saw yesterday were some that he had sent on to Santa Fé. Mr. Vaughan said that he had spent thirteen years in this country. He gave me some interesting accounts of the customs of the Puebloes, and tells me that they have a dance, called Montezuma's dance, which is danced around a pole. He also stated that when he first came to this country that the ruins of Pecos were inhabited, and that he had been there and seen the sacred fire.

November 2.—As we learned that the next town was but three miles distant, we did not leave this place until quite late, and in the meantime had sufficient leisure to examine the ruins near Tagique, part of which are at present covered by the town. We noticed mounds from 6 to 7 feet high, running due north and south, east and west—an arrangement peculiar to all Indian towns, and which seems to be pretty generally adopted by the Mexicans. We picked up some pieces of adobe that looked as if they had been burned by fire. At one place the mounds indicated a building of considerable size; this we took to have been a place of worship, and afterwards learned that the Mexicans called it the church.

As we drew close to the present town, we noticed some people digging earth to make adobes; they had exhumed a wall, consisting of adobes, with a surface of 18 by 19 inches, and a thickness of 2 inches. As we pursued our examinations, we found these mounds divided by walls, into chambers not more than 5 feet square. These could not have served for sleeping rooms, as no one could stretch out comfortably; we therefore concluded that they must have been the lower stories of buildings, such as those of Taos, Santa Domingo, and Acoma; and the great mass of debris around these walls, shows that these buildings were once several stories high. We saw pieces of pottery, similar to that now used at the various Pueblos; also arrow heads of milky quartz, which bear the same proportion to the diameter of the arrow in present use, as is here represented.

The people who were digging said that they sometimes found "metates;" these are the stones called "metlatl," by the Aztecas, on which the Indians put their corn, in order to grind it. One is not likely to observe these mounds unless they are pointed out.

Bidding farewell to our friends, we started off, and after a march of 2 miles, in a southwestern direction, we encamped at the village of "Torreon," a place containing not more than 20 houses, formed in the same manner as those at old Chilili. Here we found a fine large stream, that bursts forth at once from a grand spring in the side of the ravine above the town. As we approached, some ducks started up from the clear water; they were the teal and mallard. In the afternoon, we went to visit the town, and there saw the looms with which the Mexicans manufacture their tilmas, or blankets—the "tilmatli" of the Aztecas.[*] These looms are similar to those one meets with in the United States, except in the construction, which is of the rudest kind.

In the evening, some of the town folks came to make us a visit; they appeared to be a very gay-hearted set, and we had quite a merry talk, and a smoke; for men and women are always provided with the cornhusk, or shuck, and tobacco to make their cigarritos.

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[*] See Clavigero.

November 3.—Having purchased some corn at Tagique, with which we commenced feeding our mules, they seem to be less inclined to wander away, and no time is now lost in catching them. We were, therefore, off betimes in the morning, although we again had but a short march, for the distance from "Torreon" to "Manzano" does not exceed 8 miles.

On the road side, we noticed a great deal of the same species of holly that we had seen in the "cañon infierno." We also saw the "piñon," and the varieties of cedar; one of which our Spanish guide called "cedro," and the other "savino."

To the east, and about 17 miles distant, there are several small lakes, into which the streams in this vicinity empty their tribute. These lakes have no outlet, being situated in the bottom of a basin, 25 miles in width, and 50 miles in length.

We caught sight of "Manzano" when but midway between it and our morning's camp. It is one of the largest towns that we have met with on the west side of the river. Many of the houses have their fronts neatly whitewashed, and the church has its whole façade whitewashed with a preparation of calcined selenite. This mineral is often used as a substitute for glass in window sashes.

When we first neared the town, several of the inhabitants came out to meet us with guns in their hands. The people still have a lingering inclination for the old government, and although none of their institutions have been changed, yet it will be some time before they will regard the entrance of Americans otherwise than as an intrusion.

We encamped close to an "acequia" that feeds the mills of the town, after passing through the most central streets of the place.

Near our camp there was a large grove of apple trees; and on the east side of the town, near the mountains, a second grove. The trees are planted very close together. These groves give the name to the town of "Manzano."

In the afternoon, we visited the town and its environs. On the side towards the mountains, there is a large dam, constructed of crib-work, 12 feet wide, and 8 feet high, and 100 feet long, formed of rough logs, and the interior is filled up with stones and earth. Just now the lake is nearly dried up, and the little mills that its waters used to turn have not sufficient power to grind the miller's corn. These mills, like everything else in New Mexico, are of very primitive style. There is a vertical axis, on the lower end of which is the water-wheel; the other end passes through the lower burr, and is firmly connected with the upper stone, which, as the axis turns, revolves upon the lower stone. Above all this, hangs a large hopper of ox-hide, kept open at the top by a square frame, and narrowed off towards the bottom, so as to present the form of an inverted cone. In the extremity of the bag is a small opening, and this is fastened to a little through. One end of this trough being supported by its connexion with the hopper, the other end, or mouth, is sustained by a horizontal strip of wood, of which an extremity rests on an upright, and the other is upheld by an inclined stick that rests on the upper burr, so that the motion of the burr gives a jostling motion to the trough and hopper; thus the grain falls into the opening in the centre of the upper burr, and passes out between the two burrs.

In the evening, the alcalde came and invited us to a fandango.

Whilst sketching some of the buildings in the towns, a large concourse of the inhabitants collected around me, eager to see what I was doing. I took the opportunity to impress them with the idea of the numerous bodies of Americans who were in the country. I told them that large bodies of soldiers were to be stationed at Albuquerque, this winter; that there were troops at Covero, that there were troops in the Navajoe country, and troops at Santa Fé. And as to the Mexicans having said that they were coming from Chihuahua, by this route, to Santa Fé, that they lied; the people of Chihuahua talked of what they would do, while the Americans have already gone down the river to meet them, if they dare come. These things they knew to be true, for they all are well acquainted with the motives and disposition of our forces. From that moment there was a great change in the conduct of the people.

In the evening I went to the fandango, and met with a merry and happy-hearted set. They all danced, and scarce a moment during the evening but what the floor was occupied with couples whirling in the graceful waltz. They danced the "cumbe," they waltzed, and danced again. The alcalde and his wife sat at the head of the room; she had a black bottle full of "aguardiente," this she dealt to the most honored; and a peasant went round the room selling apples. The music was produced by guitars, violins, and voices. The singers composed their songs impromptu; and often the listeners would burst forth into lengthened peals of laughter, at some happy stroke of the witty improvisator.

While here, I made the acquaintance of "El Señor Don Pedro Baca," one who has charge of the silver mines. He told me that there is, in the mountains, mines of silver, copper, iron, and "azogue;" by this last word, I understood him to mean quicksilver; but in strict mining language, "azogue" is used to mean silver ore adapted for amalgamation; for the ores that I brought to the United States, and which he called "azogue," do not contain any mercury.

Upon my expressing a desire to obtain some of the ores, he said that he would send at once; it was now near 10 o'clock at night, and I begged him not to think of putting himself to so much trouble; but he insisted on sending, and told me that if I would wait until 12 o'clock the next day, that his men would return with plenty of specimens of the ore. As I still insisted on his not going to such great inconvenience, he said that he was obliged to send out, and whether I waited or not he should do so. I therefore consented to remain.

November 4.—As I should be detained here until midday, I sent forward the wagon and party, and went with El Señor Don Pedro, to his house, there to await the arrival of the messenger with the specimens. He gave me a book containing the laws of the mines, and spoke much of the productiveness of the "labores" of Manzano, which he represented as greatly superior to those of Socorro, as he had once worked those of the latter place. This man was the wonder of the village; he had been to Matamoras and to New Orleans; and while I was there, took the opportunity to give a long account to his friends of the great steamboats on water, and the little steamboats on land, that run along on roads of iron; and concluded his discourse by saying, "what in the whole world shows more beautifully the wonderful genius of man than steamboats and steam cars?" The rest of the time was consumed in looking over some plants; he pointed out a species of wild marjorem, that he called "Oregon."

At 11½ o'clock, the man that was sent returned, bringing numerous specimens of silver ore. He said that he could have got me specimens of the copper, and other silver ores, but the mines were too far for him to go and return by 12 o'clock. My friend called the quartz "quixa;" also "madre de la plata."

I now bade adieu to my generous entertainers, and with thousands of extravagant compliments from the kind people, I set out to overtake the party. After travelling southeast for 6 miles, I reached the ancient village of "Quarra." Here there is yet standing the walls of a time-worn cathedral; it is composed entirely of stone, red sandstone; the pieces are not more than 2 inches thick. The walls are 2 feet wide, and the outer face dressed off to a perfectly plain surface. The ground plan presents the form of a cross, with rectangular projections in each of the angles. The short arm of the cross is 33 feet 2 inches wide; the long arm is 18 feet 9 inches wide; their axis are, respectively, 50 feet long, and 112 feet long, and their intersection is 30 feet from the head of the cross. The rectangular projections that partly fill the angles formed by the arms, are 6 feet square. At the foot of the cross are rectangular projections, that measure 10 feet in the direction of the long axis, and 6 feet in the other direction. Around the church are the less conspicuous remains of numerous houses, that had been built of the same material, and the surfaces of the walls finished with tools; but these houses are almost level with the earth, while the walls of the ancient church rises to the height of 60 feet. While making my measurements, assisted by one of the men who had remained with me, a Mexican came up to me and said in the most mysterious way, "I know something of great moment, and want to speak to you, to you alone; no one must be near; come with me to my house." I went; but when we arrived there, we found an old ruin fitted up with such modern addition as was necessary to render it habitable. Here were several women. I sat some time, talking of indifferent matters, waiting anxiously the important secret; but my friend did not like the presence of the women, and would not tell me then; so I got ready to recommence my journey, while he endeavored, in a thousand ways, to detain me. I asked him some questions about the geography of the country, and about the famous place called "Gran Quivera," He told me that it was exactly like the buildings of Quarra, thus confirming what I had learned at Manzano.

I now signified my determination to proceed, when this man seemed extremely anxious about my going, and at last told me that he would meet me in a cedar grove, some distance in my route. In a little while I reached the grove, and saw him there. He then told me that he had discovered the greatest mine in the country, where there was an abundance of gold and silver. I asked him why he did not go and get it? "Oh," said he, "you cannot have been long in this country not to know that we poor people can keep nothing; the Ricos would seize all, but with your protection I would be secured in my labors." Then, he added, "I'll give you my name, write it down, it is José Lucero, of Quarro; you can inquire in the villages through which you pass, they will there tell you I am honest." I took down José Lucero's name, and proceeded on in my journey, so that if any one wishes, they yet can go and seek the gold of Quarra.

Having journeyed some distance beyond this place, we suddenly heard the most horrible screechings and groans, as if one was approaching the portals of Erebus; and all these horrid sounds proceeded from the never greased wheels of some Spanish "carretas" These curious structures are formed of pine, chiefly; the axle is of pine, and the wheels of cotton-wood; they are made thus: A rectangular piece of wood, about four feet long, two and a half feet wide, and one foot thick, is procured; this is diminished in thickness, so as to leave a projection on each side, which forms the hub, and its extremities are rounded. The remaining arcs of a circle, of four feet; are fastened to the first piece, with large wooden pins, so as to complete the circumference of the wheel. A large hole is pierced in the vicinity of the centre, to receive the spindle of a huge pine axle; a body like a hay crate, and a tongue, complete the "carreta." The oxen are attached by the means of a bar of wood, that is lashed to their horns. We met five of these "carretas," they were on their way to the great "Laguna Salada," to procure salt.

At sundown we reached "Abo," where I found my party comfortably encamped. This town is also one of the ancient ones; there are most extensive ruins scattered around in all directions; all built in the style of those at Quarra. Here, also, is a large cathedral. Its ground plan is in the form of a cross; the short arm is twenty-two and a half feet wide, the long arm is thirty feet wide; their axes, respectively, 27 feet and 120 feet; and at the head of the cross, there is a projection, about nine feet square; this makes the total length 129 feet. The areas, intersected at a distance of thirty-four feet from the head of the cross, or forty-three, including the projection. The areas of the cross coincide with the lines that pass through the cardinal points. In the east end of the short arm, there is a fine large window, the sides of which have what is called a flare, a style often used in Gothic windows. The walls of the church are over two feet in thickness, and beautifully finished; so that no architect could improve the exact smoothness of their exterior surface. From these descriptions of Quarra and Abo, from all one learns of "Gran Quivera," and from the walls of the houses, in the latter place, having, as Gregg has stated, the Spanish coat of arms upon their face, one must conclude that these buildings were erected by Spaniards, or, at least, under the direction of some Spanish padre.

As these remains of buildings have created all kinds of hypothesis,—some attributing their origin to Indians, and some to Spaniards, I have taken the pains to look into several of the most excellent histories of this country; such as Solis, Miguel Venegas, and Clavigero. Venegas states, that in 1538, Marcos Niza, a Franciscan, visited a large town called "Quivira," with houses seven stories high. Again, in 1542, François Vasquez Covonada marches north to the Rio Gila, and then east, to the great cities of "Quivira" and "Axa," near the kingdom of "Cibolo" and "Tigue." Pattarrax was king of this region; the riches of this people consisted of black cattle, (buffalo?) that are food, furniture, and clothing." This settles the question, that "Quivira" and "Axa" were originally Indian towns. This great kingdom of "Cibolo," (this word, at the present day, is used to mean buffalo,) although distant from the city of Mexico, must have been known to Montezuma, for we find the Spaniards struck with amazement at the sight of a singular animal in the zoological gardens of the Mexican monarch, such as they had not seen before.—Nor, according to Vanegas, was it known in "Sonora," or along the river "Gila." In Solis, this animal is thus described: "This greatest rarity—the Mexican bull, has a bunch on its back like a camel, its flanks dry, its tail large, neck covered with hair, like a lion; it is cloven-footed, its head armed like that of a bull, which it resembles in fierceness, with no less strength and agility." We know, from the present habits of the buffalo, that it confines its wanderings to the plains; and we know, from Vanegas and Solis, that it was not known in California or Mexico; it must, then, have come from the plains bordering the eastern side of these regions. Now, the Mexicans had a habit of giving names to men, significant of their achievements or adventures, and names to places, significant of events connected with their origin, or for something for which they were remarkable. Thus, the great Tezcucan prince was called "Nezahual-coyotl," the hungry coyotl, or wolf: "Nezahual-pilli," the prince for whom one has fasted: and the ancient name of Mexico, "Tenochtilan," signifies cactus on a rock.* It is not then assuming too much, to conclude that the kingdom of "Cibolo" signifies the country from whence the buffalo came.

We shall now compare the style of architecture in New Mexico, with that of the city of Aztecs. At Taos we now find houses seven stories high; at Acoma three stories; at Laguna they are two stories high, and built of stone and mud; while those of Quivira were, according to Vanegas, seven stories high: and at Tagique the houses were evidently several stories high. Add to this, that at Quivira there is yet to be seen the remains of aqueducts. Now, I think it can be shown, that the people of Mexico and its immediate vicinity built their houses several stories high, while the other nations that the Spaniards saw did not build to a greater height than one story. Solis says, the city of Iztacpalpa consisted of houses two and three stories high. In the city of Mexico, he mentions that the king's jester lodged in the second story of the house that contained his zoological collections. He also states, that there was a thick wall, reaching from a neighboring mountain, with two open canals of stone and lime, of which one was always in use whenever the other required cleaning. In another place, "there appeared on one side two or three rows of pipes, made of trees hollowed, supported by an *aqueduct* of lime and stone." On the other hand, it is stated "that the Indians of the coast made their houses of stakes, interwoven with boughs and leaves, having in many places no other houses."

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* For the Aztecs, in their wanderings, observed at the present site of Mexico, a cactus that had sprung from the crevice of a rock, and while looking at it, an eagle lit upon the cactus. With joy they hail this omen, and here build Mexico.

The present ruins of buildings that we find at Abio, Quarra, and Quivira, were erected by Indians under the direction of the Spanish priest; we find such men as father Kino, who settled among the Indians, urged by a zeal for the cause of the holy cross; and they soon obtained so great an influence over the Indians as to be enabled to erect "houses, chapels, to form villages and towns." Vanegas mentions a holy man, named Juan Padellas, who went to Quivira, shortly after the visit of Francisco Coronado. The soldiery never staid long in any of the Indian villages, they were more inclined to search for gold than desirous of instructing the natives in architecture, by erecting houses; or in architecture and religion, by the erection of chapels in which they worshiped.

In the history of Clavegero, one will find many things which tend to prove the most striking similarity between the ancient races that dwelt in New Mexico, and the tribes which people the region of Anahuac. Clavegero says, they "constructed, in their pilgrimage, many edifices in those places where they stopped for some years. Some remains are still existing, as we have already mentioned, upon the banks of the Rio Gila, in Pimeria, and near the city of Zacatecas." In another place, speaking of the emigration of the Aztecs, he says, "having passed the Red River, (Rio Colorado,) from beyond latitude 35°, they proceeded towards the southeast as far as the Rio Gila, where they stopped for some time; for at present there are still remains to be seen of the great edifices built by them, on the borders of that river. From thence, having resumed their course towards south-southeast, they stopped in about 29° of north latitude, at a place which is more than 200 miles distant from the city of Chihuahua, towards north-northwest. This place is known by the name of *Case grandi*, on account of an immense edifice still existing; which, agreeably to the universal tradition of these people, was built by the Mexicans in their perigrinations. This edifice is constructed on the plan of those of *New Mexico;* that is, consisting of three floors, with a terrace above them, and without any entrance to the under floor. The door for entrance to the building is on the second floor, so that a scaling ladder is necessary; and the inhabitants of New Mexico build in this manner, in order to be less exposed to the attack of their enemies; putting out the scaling ladder only for those to whom they give admission into their houses. No doubt the Aztecas had the same motive for raising their edifices on the same plan, as every mark of a fortress is to be observed about it, being defended on one side by a lofty mountain, and the rest of it being surrounded by a wall about seven feet thick, the foundations of which are still existing. In the centre of this vast fabric is a little mound, made on purpose, by what appears, to keep guard over and observe the enemy. There have been some ditches formed in this place, and several kitchens utensils have been found, such as earthen pots, dishes, jars, and little looking glasses of stones itztli."

We are struck with the great similarity between the "casa grande," and the buildings at "Acoma" and the "Pueblo de Taos." Did we need stronger proof of the common origin of the New Mexicans and the Aztecs, we find it also in Clavigero, in the following words: "Besides, from Torquemada and Betancourt we have proof of it," (he means by it merely that the nations of Anahuac came from the north,) "on a journey made by the Spaniards, in 1606, from New Mexico to the river Tijon, 600 miles from that province, towards the northwest; they found there some large edifices, and met with some Indians who spoke the Mexican language."

I have made mention several times of the kingdom of "Cibolo." This kingdom was composed of *seven* towns; which calls to mind that the nations of Anahuac were composed of Xochimilcas, Tepanecas, Chalchese, Hahincas, Tlascalans, Colhuans, and Mexicans, seven in number; and they are said to have preserved this arrangement of tribes in all their wanderings.

And now let us try to locate the "Cibolo," or the kingdom of the buffalo. We find at the present time two places in New Mexico, which bear in their names traces of this "Cibolo." One is called "Cibolleta," and the other "Joya de Cibolleta." The first is situated about 60 miles west of the Rio del Norte; the latter is situated upon that river, opposite the mouth of the Rio Puerco. Vanegas states, that Vasquez Coronado marched from the seven towns of Cibolo to Tigue, on a river where he got intelligence of Quivira; and "that a body of Spaniards were sent thither, being 300 leagues further, along a level country, but thinly peopled." From this we learn that Coronado's party had to march some distance before reaching that river, and then had a long march, in order to reach Quivira; and that the country over which they passed was "a level country."

As has been already stated, Cibolleta is some 50 or 60 miles west of the Rio del Norte, (which is in fact the only river in New Mexico, and must be the one referred to on which Tigue was situated,) and one can march from Cibolleta to Quivira, and keep upon a level country, going through the pass in the mountains near Abo.

Add to this, that Cibolleta is situated in a group with the towns of Moquino, Paguate, Rito, Laguna, Covero and Acoma; in all, seven towns, and only seven; the same number which composed the ancient kingdom of Cibolo.

The level country between Quivira and Cibolleta, would permit the buffalo to extend their range to the latter place.

Clavigero makes known a curious custom of the Indians of "Cibolo," which was not practised by the nations of Anahuac, but it resembles that of our prairie Indians; it is in using dogs to carry burdens. Clavigero mentions the dog of Cibolo, or dog of burden, "a quadruped of the country of Cibolo similar in form to a mastiff, which the Indians employ to carry burdens; several historians mention this strong animal."

Although these remarks may be looked upon as an unnecessary digression, yet they may be useful in attracting the attention of some more able investigator to this subject. I have made them as brief as possible.

November 5.—This morning, when about starting, we noticed some mule tracks that had evidently been made by animals under human guidance. They had come from the direction of Quarra, and after approaching quite near our camp, had retraced their steps, going back by the same route. We had been too long in the woods not to notice these things, yet we all tried in vain to discover the object of the persons. Towards midnight we had a severe shower; these tracks had been made subsequent to the shower.

We had quite a hearty laugh at our guide, who had never been beyond Chilili and Tagique, but still would not admit it. Yesterday, he had insisted that Abò was much farther off than it had proved to be; and now, to confirm what he said, he declares that there is another Abò. We feigned an intention of going there at once, when he cried out, that it was a dreadful place, "no hay, agua, pasto, leña, gente; nada, nada, señor."

Leaving the wagon to proceed slowly, I went over to the old church of Abò, in order to make a sketch of the venerable ruin. It is impossible to get any account of these hoary monuments from the inhabitants of the neighboring towns. We frequently questioned them with regard to such relics, but their responses were wrapped in the mystifying language of ignorance, or the very unsatisfactory reply of "quien sabe." They view our inquisitiveness with a jealous eye, for they can only account for it by supposing that we are in search of gold, which tradition has said is buried beneath the altars and floors of these old churches. It is related of an old man who lived in Santa Fé, that after having amassed quite a snug little sum of money, he induced several others to join him in an expedition to Quarra, where he spent all his gains in digging in the aisle of the old church. The hole, now half filled up, still remains a monument of his folly. It is also stated, that while engaged in this search, he exhumed the bones of some one who had been buried beneath the floor of the building. They were supposed to have belonged to some priest; and at night, when the old man thought his comrades were all asleep, he went and knelt down, and invoked the soul that had once animated these bones with most humble entreaty and most powerful arguments and promises. He told the spirit, that as it had always been here, it must know where the treasure was deposited, which if left concealed would do no one any benefit; but if it would inform him, that he vowed by all most holy, to have these bones interred in sacred ground, and would purchase masses without number; but it was all in vain.

We had a fine road, and travelled on at the rate of three miles an hour. For the first five miles, we followed the stream on which Abo is situated; as we proceeded, it became perfectly dry. Its course is nearly due west to the Rio del Norte. As it goes through a narrow cañon, we were obliged to follow the road, which led us through a crooked mountain gorge, whence we emerged into the great valley of the Del Norte.

We saw a plant that bears some resemblance to the yucca, and is called "palmello angosta;" also, a "mahonia," the leaves of which are very much like the holly; this the Mexicans call "palomereo."

As we descended into the valley, we found a great and very perceptible change of temperature. The sun now seemed as if his influence was gaining the ascendancy over that of the snow-capped mountains; and when we reached the foot of the sierra, we found some beautiful plants still in full bloom. Continuing our journey, we, ere long, saw a large band of antelope dash across the road. This circumstance gave us hope of soon finding water; and, in a few moments more, we perceived a herd of cattle grazing near the road. When we reached them, we found several little ponds of water, and encamped alongside of them; having made a journey of 20 miles. We had scarce completed our arrangements, when a dark cloud came sweeping along the sierra, pouring down rain and hail; but it passed over us rapidly.

November 6.—Our road now led across a level plain, which consisted of a mixture of small gravel and sand. Although a good road at any time, still the shower of yesterday had rendered it more compact, and we made a rapid march, completing a journey of 18 miles by noon; when we encamped at "Casa Colorado," a little town on the banks of the Rio del Norte, near a large acequia that passed between the town and the river. We here heard that General Wool had taken Chihuahua without any opposition, but we knew the Mexicans too well to place confidence in this report, and could only hope that it was true, without permitting the rumor to have any influence on our plan of operations.

In the afternoon, we went to pay our respects to the alcalde, and to ask some questions with regard to the surrounding country; but found our visit very unprofitable. He had some very old pictures, in large, oval frames, that had once been beautifully gilded. We asked him questions with regard to them, but all his answers were prefixed with "quizas," (perhaps.)

North of the town there are several large ponds; their surfaces were covered with ducks and geese, and long-legged cranes were stalking about their margins; but they will not allow any one, with a gun in hand, to approach.

We noticed several vineyards near us; the vines had been trimmed off very short, and were surrounded by mounds of earth, between 2 and 2½ feet high, to protect them from the frosts of winter.

November 7.—Hearing that some Americans were encamped near us, we sent a messenger to them, in order to inquire if they had heard any news from Chihuahua. We learned from Mr. R. Gentry the rumor that General Wool had entered Chihuahua; but no positive information had as yet been received.

Leaving Casa Colorado, we continued our way down the Rio del Norte. Having proceeded four miles, we crossed the mouth of the stream that rises near Abò. One mile more brought us opposite to the town of "Savinal." We also passed a cluster of "rancherias;" one set seven miles from one point of departure, and in sufficient number to be dignified by the name of "Rancho de Mitra."

After marching 12 miles we encamped on a salt plain, by the side of the river, close by some cotton wood trees. Here we noticed some pools of beautifully clear water, and, on stooping down to taste of the inviting element, we found it perfectly saturated with salt. The plain around us was covered with a white efflorescence that one could scrape off with great ease, and, in a little time, obtain an abundance of salt.

November 8.—Last night the wind blew so strong as to endanger the stability of our tent. Streams of rain were driven against the cloth walls of our frail shelter by the strong northwest blast; for the wind had changed diametrically opposite to its course when we first encamped.

This morning the bad weather yet continued. A cold damp mist is incessantly descending. At length we saw gleams of sunshine now and then illumine the distant hills, and we started. About 12 o'clock the wind changed to the southeast, the mist ceased falling, and cleared away, but the blast blew chill, and we were fain to wrap ourselves closely in our "tilmas." After marching four miles we arrived opposite to the mouth of the Rio Puerco, and three miles more brought us to the town of "La Joya de Çibolleta." I was struck with this name when I first heard it, for it is not Cebolléta; but one finds in the name a trace of the ancient kingdom of Cibola. This place is "the jewel of Cibola."

We were much amused wiih the laconic replies of some persons that we met upon the road—whence do you come? "De abaxo," (from below.) Where are you going? "Arriba," (above.) What news have you? "Nada," (nothing.) Men who can give such non-committal answers certainly possess considerable finesse. There is much more wit in these replies than in the stereotyped joke of "comprendo pero no quiero," that is every where echoed through New Mexico. Alas the degeneracy of the times. O tempora! O mores! It would make Cervantes weep, and, in despair, burn up his works.

At Joya we purchased some corn for our mules at the rate of $3 the "fanega." Continuing on to Joyeta, which is six miles further, we encamped under a large grove of cotton wood trees in the vicinity of an acequia.

The course of the river to-day was torthous; high sand banks closed in on each side, almost obliterating the valley, except at Joya and Joyeta, where there are fields sufficiently broad for raising corn enough to supply the wants of the people, and to afford grazing grounds for their cattle. To-day we saw great quantities of the mezquit "prosopis glandulosa," and a curious evergreen plant, belonging to the zygopyllaceae, that gives out a very pungent odor, resembling kreosote. It occurs in dense spherical masses, similar to the common box, which, at a little distance, it resembles. Its height is not more than two to three feet. The leaves are entire, as large as those of the box, and shaped like the tail of the letter Q. It loves a sandy soil, and prefers the hill sides to the plains.

November 9.—From Joya we observed quite a change in the appearance of the country. The river banks are now heavily timbered with cotton wood; the high sand bluffs close in to the river, and the climate has become much milder, while the plants around show a great change of latitude. Of cacti four varieties have suddenly burst upon us, and there we found the broad palmated variety growing in magnificent luxuriance. The leaves, if I may so call them, measure 14 inches in length and 11 inches in breadth. We also saw a variety with a stem resembling that of a young shoot of the orange tree, one-third of an inch in diameter, with spines two and three inches long, and these covered with thin semi-transparent sheaths. The "C. undulata" covered the hill sides, mingled with the mezquit "P. glandulosa."

As we pursued our way along the river side, we saw many flocks of sheep that the "pastores" had driven in from the mountains, for fear of the "Navajoes." The whole country was in a state of alarm, and the road was lined with "voluntarios" hurrying to the rendezvous. At Sabino we found that many had already assembled, armed with muskets and escopettes, with cartridge boxes that were buckled round the waist, full of death-dealing lead and powder.

After passing through the town, we still found the people gathering together in little groups, the valley still full of sheep and goats, so that the hills resounded with their bleating. After marching 11 miles we reached Parida, and passing two miles beyond the town, we encamped at the foot of a high sandy bluff, which we will have to cross to-morrow. Our mules will then be ready for climbing the steep and sandy acclivity. "Socorro" is on the opposite side of the river, and one mile below us. From the hill near which we have encamped there is a fine view of Socorro and the ruins of "Las Huertas," four miles below, as well as of Limitar, which is seven miles above. Between us and the above named places rolled the waters of the Rio del Norte, which are here bordered by groves of large cotton wood trees. In the back ground, about 10 miles to the westward, rises a range of lofty peaks, some 2,000 feet in height, and still farther west, some 20 or 25 miles distant, rise still loftier peaks, to the height of 3 or 4,000 feet, their tops covered with snow. The midday sun is quite hot, notwithstanding our vicinity to snow-capped mountains, and notwithstanding the severe frosts which nightly cover the ground, making the mornings bitter cold.

The rocks that strew our road are volcanic, a vesicular stone of dark purple color and hard as adamant.

We had a very long, steep, and sandy hill to climb this morning just as we left "Joyita," and we were stopped by another. It would be advisable for any one travelling with wagons to cross at Albuquerque, and keep down the river on the west side until reaching Valverde, where, I have been informed, the crossing is very good.

We noticed to-day numbers of the red-winged flickers, "Picus Mexicanus," and the meadow lark, "sturnella neglecta;" the latter bird was whistling as cheerfully as if it had no idea of the approach of cold winter.

November 10.—The severe frost of last night made a good fire very desirable, and the abundance of cotton wood all around our camp made the attainment of this desirable object very easy; the sound of our axes resounded through the groves, the men gaining, by their labor, warmth and wood, and soon a mountain heap of dry logs was crackling in the flames. We now despatch our breakfast, strike tents, and clamber over the hill that overlooks Socorro; descending this hill, we encamped on the west side of a little "bayou," having gone only 1½ mile. On the road we flushed several large flocks of quails. They happened to be at the foot of a high, perpendicular bank, when they rose up on wing until they reached the top, and then, alighting, scampered off with great rapidity. They had crests on their heads, and differed in color from the quail of the United States.

We encamped within sight of the train belonging to Mr. McGoffin; there were forty large Conestoga wagons in this train and a due proportion of men.

To-day we saw some Mexicans hoeing in wheat. It required 15 men a whole day to accomplish what could have been done by a "burro" attached to a harrow, in a few hours.

In the afternoon I went out to procure some of the quails we noticed this morning, but could not find any of them. I, however, got some of the spiral pericarps of the "prosopis odorata," or, as it is named by the Mexicans, the "tornilla;" also the mistletoe that grows so abundantly upon the cotton-wood, and is called, "bayeta del alamo." The cockle burr and sand burr are very abundant, so much so, as to annoy us by sticking fast to our clothing and blankets; and our mules got their manes and tails so clogged as to be but masses of cockle burrs.

November 11.—This morning we started off in hopes of being able to cross the river and go down on the opposite side. At two of the fords we could not have crossed without getting our provisions and bedding wet. At last we found a good crossing a short distance above the town, but as the prospect of obtaining wood and grass on the other side was not very favorable, we concluded to camp directly in front of Socorro. I paid the alcalde a visit. He showed me his vineyard; each vine was heaped around with a pile of earth between two and three feet high, and the vines trimmed nearly off even with the top of the hills. The alcalde gave me some specimens of the lead and silver ores of the mines of that sierra which is nearest to Socorro, and said that in the same vicinity there are found gold, silver, copper, and lead. He also told me that Don Pedro Baca, of Manzano, once worked these mines, but that the quicksilver necessary for the amalgam costs $3 by the ounce, while at Manzano they obtain it from the mine with other metals.*

Socorro contains about 2,000 inhabitants, and is one of the largest towns we have yet seen, except Santa Fé. While walking through the streets I saw a party of Apache Indians quietly trading with the people, and was told that since General Kearny's coming here, and making a treaty with the Apaches, these Indians had behaved very well.

In the evening I got a fine specimen of the red-winged flicker, "Picus Mexicanus," also a creeper, "Picus querulus," which is called by the Mexicans the carpentéro, from its habit of chipping away at old trees.

November 12.—We are still without any information from below, but determined to move on slowly. We therefore packed up all our property and were very early on the road. After passing through the little town of "Las Cañas," we encountered another hill of sand, very difficult of ascent, and after we reached the top we commenced the descent through a crooked ravine that was strewed with fragments of rock. On the way we saw several flocks of crested quails; they were running along with great rapidity among the clumps of the "kreosote plant." We procured one of them; at the report of the gun only three or four rose up; they seem to depend more on their fleetness of foot than swiftness of wing. This bird proved to be the "Ortix squamosa," and has been figured and described in "Gould's Monograph of the partridges of America." The plumage is of a soft silvery grey, the iris hazle, and the crest fringed with white. The size, contour, and general character greatly resemble the common quail, "O. Virginianus." On opening the stomach, I found it filled with grass seeds and green insects of the genus "hemiptera."

We encamped about half a mile south of "Bosquecito," close by some large cotton-wood trees, overgrown with bunches of misletoe, still looking green and fresh, while the foliage of the tree was withered with the winters' frost.

In the evening we saw, on the opposite side of the river, the companies of Captains Burgwin and Grier, on their return to Albuquerque. Lieutenant McIlvane came over the river, and from him I learned that Captain Grier, with Lieutenant Wilson and two men, had had a fight with a party of Navajoe Indians. It appears that while the companies were on their march down the river, some Mexicans rushed hurriedly up to them, crying out that the Navajoes had just been into the village, murdering the people, and carrying off their flocks and herds. Captain Grier immediately set off in pursuit, and soon came in sight of the bold marauders. In a little while the Indians began to abandon the cattle they were driving off, until at last 400 head had been left along the route. So warm and exciting was the chase, that the officers, who were well mounted, heeded not the want of their men who were unable to keep pace with them, but they pressed on, anxious to recover the immense "cavalgada" of sheep that the Indians were yet driving. Suddenly they saw they had rushed into an ambuscade, for the Indians, rising up from their concealment, surrounded Captain Grier and his three brave companions. With horrid cries and shouts of "Navahoe, Navahoe," the Indians sprang forward to the combat; they were dressed for war, being ornamented with paints and plumes, and mounted on good horses, and armed with bows and arrows, and lances; but, fortunately, they were so crowded that they feared lest they should shoot each other. At length one of the chiefs came along side of Lieutenant Wilson; their horses were on the gallop, each one waiting until the horses should jump together, when, at the same moment, Lieutenant Wilson and the Indian fired; the officer's pistol did not go off, and the arrow of the chief only cut off a coat button, and lodged in the saddle blanket of Captain Grier. As the Indian turned his horse, a Mexican, who had started at full speed, came in contact with him, and rolled horse and rider in the dust; the Indian was immediately upon his feet, and rushed up to a dragoon soldier, who had a patent carbine, such as loaded at the breach, and had, unseen by the Indian, reloaded it, and the Indian coming up within two or three feet, the soldier shot him dead. One other Indian was killed, when Captain Grier ordered a retreat, and the four, drawing their sabres, cut their way out and rejoined their company, while the Navajoes succeeded in carrying off 3,000 head of sheep.

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* None of the ores that I obtained at Manzano contained quicksilver; still the people o Manzano agree with this alcalde in their statements.

Lieutenant Wilson was again fortunate; being out on a patrole he captured a courier with letters to Chihuahua, which had been written by some of the principal men in New Mexico, and manifested a spirit of readiness for any insurrectionary movement.

November 13.—This morning I crossed the river at "Bosquecito," and went to the encampment of the dragoons. Captain Burgwin informed me that the traders were well prepared to defend themselves in case of an attack; that they had constructed quite a formidable fort of wagons at Valverde, and that the country in the vicinity of their camp afforded plenty of wood and grass, and, I therefore, determined to move down the river on the next morning.

November 14.—The day proving very favorable, we made a much longer march than we had at first intended, as we proceeded at least 10 miles below San Pedro, which place is 4½ miles south of Bosquecito. The road for many miles, in the latter part of our march, was covered with a deposite of saline substances, which lay like new fallen snow, and made an unpleasant glare, such as completely dazzled our eyes. We got some golden-winged woodpeckers and butcher birds, "lanins borealis," besides killing two large swans, "cygnus Americanus," that proved to be very fat. We encamped at "Bosque del Apache," far to the south of the last inhabited town that we shall see north of the Jornada del Muerto.

November 15.—Before the sun had risen, we were travelling on our journey, and soon reached the celebrated valley of Valverde. We now came in sight of the camp of traders. We found assembled here many gentlemen whom we had formerly met, and our happy feelings at greeting them in this wild country were heartily reciprocated. We camped close along side of them.

During the day a man entered camp, purporting to be a messenger from Captain Cook, and stating that Captain Cook, finding his men and animals failing, and his provisions giving out, had changed his destination, and would now make a descent upon "El Paso." We were glad to hear this, as it was the people at that place who had made several demonstrations of attacking us here. But there was something about the man that excited suspicion, and the traders refused to furnish him with the mules which he said were necessary to enable him to carry on Captain Cook's letters asking for reinforcements. This man showed sealed letters from Captain C. directed to Captain Burgwin, but, notwithstanding, his whole story was an unprincipled fabrication, as we afterwards learned.

The traders will suffer great losses on account of our difficulties. Every pound of freight brought to Chihuahua costs 18 cents; if stopped at Santa Fé, 9 cents; and all here say that if the duties of $1,000 a wagon load have to be paid they will lose everything.

November 16.—We were all scant of provisions. The traders have been at this place for the last forty days, and in that time have consumed their provisions, for they made no arrangements for such a prolonged stay. Common sugar and coffee cannot be had for less than 50 cents the pound, and beeves sell for $20 the head. To employ our time, we went out gunning and killed a loon, "colymbus glacialis;" several ducks, "anas merganser." On our return, we saw a fine bald-headed eagle that was sitting on a bar in the middle of the Rio del Norte. We hailed it as an emblem of our victorious banner, which bears this bold bird on its folds.

November 17.—This morning I started for Socorro to procure corn for our mules. The "grama" is not sufficiently nourishing for animals that have been laboring hard. We had rumors to-day that the American traders in Chihuahua were allowed perfect liberty, except Mr. McGoffin and Señor Gonzales; that goods are bringing 37½ cents per vara, which is one-third more than many persons here are ready to sell for.

November 18.—During the morning, we walked over the ruins of Valverde. They were inhabited in 1820 and 1825, but constant depredations of the Apaches and Navajoes forced the people to desert their village. Nothing now remains but the ruins of some adobe walls, over which stillness reigns. I took a sketch of the town and the river valley beyond, filled with cotton trees; the high, flat "mesa," covered with a sheet of volcanic rock, and the grand snow-capped Sierra, that rises in the distance. This valley of Valverde has been very highly spoken of, but it is of narrow limits, and its soil is sandy.

November 19.—While paying a visit to one of the traders' camps, I saw the Indian method of grinding corn. A large slab of volcanic rock had been obtained from the neighboring "mesa;" this was then worked into a level surface and placed in an inclined position, to form the "metate" upon which the corn, that has been previously parched to render it more crisp, is placed and ground with an oblong stone.

Last night a Mr. Phelps, who had left his home to try the health restoring climate of the Rocky mountains, died. Being in the last stage of consumption, he had hoped that the pure air of the prairie might ameliorate his disease. Notwithstanding the beneficial effects that pure air may produce, yet the exposure under the thin canvass walls of a tent; the long journeys during days of heat and cold; the deleterious effects of the deprivation of the various conveniences of civilized life; the necessity of travelling daily, whether the patient be sick or well, more than cancel the good influences of the healthful climate.

November 20.—We have a great deal of ice in the Rio del Norte; at one place it was sufficiently strong to bear the weight of a man. We found some of our friends making atole,* which is a very dilute kind of mush made of the flour of parched corn.

We learned that Colonel Doniphan had not yet concluded his treaty with the Navajoes, and was expected in eight days, and several companies were already at Socorro.

November 21.—We were delighted by the arrival of several Americans, who confirmed the report that two companies of Colonel Doniphan's regiment were at Socorro. One can never believe the New Mexicans; not that they are wilfully liars, but they are so ignorant that they see nothing clearly, but judge as if looking through a glass darkened, and give word to the conception thus derived, which generally proves false.

The Mexicans are remarkable for their ceremonious politeness; in meeting each other they generally embrace and uncover their heads, after which each runs through a long formula of inquiries after friends and relations, and ends with good wishes and invocations of the protecting care of God, the virgin, and the saints. To-day some one greeted a Mexican who appeared with the common salutation of "Viva usted mil años;" he instantly replied, "and God grant, sir, that you may live to see the last year of the thousand."

From what I have been informed, the profits of the Santa Fé traders are in this proportion: Goods, such as calicoes or prints that are bought for 10 cents, sell for 37½ cents; and casinets and cloths, costing about 25 cents, sell for $2. A wagon contains from two to three thousand dollars worth of goods.

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*The "atolle" of Chagres.

November 22.—We have had some news to-day that caused quite an excitement. The people of Chihuahua have had spies out, far advanced in the direction of the route by which General Wool will have to approach, and they now say that he is not coming at all. This has so encouraged the Mexicans that they have determined to send a force here and capture the wagons and valuable goods of the traders.

November 23.—A cold wind, that continued to blow all day, obliged us to gather around our camp fires; but even then it was almost impossible to be comfortable; one must keep constantly revolving in order to have all sides warm.

While sitting by the fire last night, we heard the sound of horses' hoofs on the frozen ground; hailing those who approached, we found that they were from a trader below, who was sending to Socorro to procure medical aid for a sick man, and to inform us all that he had received most positive information with regard to an intended march of the Mexicans from below, and urged all to join in an application for the volunteers at Socorro to come down and encamp where they would be ready to assist us.

November 24.—When we first arose, the river was frozen across, but by breakfast time the ice was floating down the rapid current in great quantities, with a constant murmuring sound as the fragments grated together.

The river is here full of sand bars. At one place we plucked a reed, "arundo phragmites," and without difficulty threw it across the river, which at that place was not more than 50 feet wide to the bar, but the water is now very low.

As one of the axe helves had been broken, we were forced to supply it with a piece of "mezquit;" it was very difficult to get a straight piece of sufficient length.

During the day, we sent up an express to the volunteers, desiring them to move down the river.

November 25.—This morning we walked down to a trader's camp below us. We found he had made preparations for remaining here some time. His men had constructed a log house, which they had thatched with poles and rushes, so that it was quite comfortable.

On our return to camp, we found that the volunteers had come down the river, and had encamped on the opposite side, about two miles above us.

November 26.—The weather is still extremely cold; the river was again running full of ice, and the water in the camp buckets had frozen to the thickness of three inches; still, the midday sun feels very warm.

This morning I got a sparrow-hawk, "Falco sparverius." To-day I heard an anecdote that accounts for one of our common sayings. It is related that a white man and an Indian went hunting; and afterwards, when they came to divide the spoils, the white man said, "You may take the buzzard and I will take the turkey, or, I will take the turkey and you may take the buzzard." The Indian replied, "You never once said turkey to me."

November 27.—We now moved our camp to a more sheltered position, where we had plenty of cotton wood trees, and at once commenced building houses, having procured adobes for the chimneys from the ruins of Valverde.

November 28.—This morning I got a little sapsucker, "sitta Carolina," a bird that is often seen creeping on the under side of limbs of trees that extend horizontally; they have three toes running forward, and only one backward, but their bill resembles that of a woodpecker.

We heard, this morning, of the death of two of the volunteers who were encamped near us. These men had gone off from camp five or six miles without any weapons, when they were attacked by the Navajoes, who shot them down with reed arrows, and then beat out their brains with rocks; and the Indians drove off 800 sheep. A party of thirty immediately went out in pursuit of the murderers. By the last advices they had not overtaken them.

We heard to-day, that General Wool had joined General Taylor, and that they had taken Monterey. The person bringing this news, formerly an officer in the English army, had come direct from the city of Mexico. He is now at Señor Algier's camp.

During the morning I saw Mr. Glasgow, formerly our consul at Mazatlan. He had received a letter from some friends in Chihuahua, confirming the news of the battle of Monterey. We also learned that 700 Mexicans had come up from El Paso, and had arrived in sight of our camp on the day the volunteers reached here, and seeing the latter, had retired.

During the morning I went out to see some mules that were branded with the letters "U. S.," when the drivers showed me a certificate signed by Lieutenant Stoneman, dated in the vicinity of the copper mines, on the Gila. This gave us news of the safety of Captain Cook, but obliged us to let the mule drivers retain their mules.

November 29.—A day of cold drizzling rain, during which Mr. R. F. Ruxton, the Englishman previously mentioned, entered our camp. He told us that after the battle of Monterey there was an armistice for six weeks; that General Taylor had been ordered to advance upon Tampico, and that Santa Ana had ordered his troops to fall back on San Luis Potosi, where he was concentrating all his forces. Some of the traders seem to think that he will be able to raise an army of 30,000 men.

Mr. Ruxton brought a paper from the English minister, desiring all American officers to extend every facility to English traders on their route to Chihuahua; also other papers, in which it was stated that traders of all nations would be permitted free egress, even Americans, provided they came with Mexican drivers. We also heard that twenty-one of Mr. Spier's men—this Spier forced his way to Chihuahua in spite of pursuit by the United States dragoons—had perished in the mountains, of hunger and thirst, whilst endeavoring to escape into Texas; and that General Armijo had gone to Durango;

that Ortiz, the cura of El Paso, had led the troops that came to capture the wagons of the traders; and that the people of Chihuahua had made six copper field pieces.

November 30.—To-day we employed much of our time in building, although there was a drizzling rain that was unfavorable for labor; yet we accomplished the filling in of the warp of light poles by weaving with rushes. This afternoon we had a festive scene at the camp of a trader from Missouri, who still had some fine claret wine and some good old brandy. We had many tales of wild adventures of prairie life, and hair-breadth escapes. We heard of Mike Fink, who, with two other desperadoes, for a time lived in the Rocky mountains. There Mike would shoot a tin cup off the head of one of the trio for some trifling bet. One day, under the wager of a keg of whiskey, Mike fired away at the tin cup and his friend dropped. "There," said Mike, "I've lost the whiskey, I shot a little too low." True, the bullet had entered between the eyes of the cup bearer. Shortly after this occurrence, Mike had an altercation with the second man, and, remarking that he had one of the best rifles that was ever shot, *the other* drew a pistol and killed Mike *dead;* and this man, on his way to St. Louis, to stand his trial, jumped overboard and was drowned in the waters of the Missouri. Thus, as the narrator stated, perished three of the most desperate men known in the west. Many more tales were told, of Glass, of Colter, and others, but one only I will relate, as it throws some light on the character of the New Mexicans. A few years ago the Mexicans had been endeavoring to defeat the Apaches; not succeeding, they persuaded a party of 140 to come into Chihuahua, under the pretence of making peace with them. Having given them plenty of aguardiente, they fell upon the intoxicated Indians and killed them; one woman ran to the church, hoping to be protected by the sacredness of the sanctuary. The instinct that compelled her to seek safety here was awakened, not only for the preservation of her own life, but for that of another yet unborn; but nought avails: they seize her, they drag their victim to the grand porch and cut her to pieces, tearing out a living child; they baptize it, with fiendish mockery, and then its soul is sent to join that of the dead mother!—and now, at this very moment, many of the scalps of these unfortunate beings hang dangling in front of the church, a choice offering to the saints. These are deeds of the descendants of those who came to erect the blessed symbol of the cross, who, with such holy horror, cast down the idols of the Aztecs, and abolished the horrid rites and execrable sacrifices of the priests of Huitzilopochili.

We, this evening, received a dispatch from Captain Walton, of the Missouri volunteers, desiring all the traders to combine at some one point for their better defence, as he had received information that rendered such a movement necessary.

December 1.—The month came in with much wind, scattering the foliage of the cottonwood trees, and rustling through their boughs. During the morning we had an alarm of Mexicans, but it originated from the approach of a "mulada" that belonged to some of the traders. We busied ourselves during the day in completing the construction of our houses, and soon finished the thatching of all the walls; they already afforded great protection against the rude December blast.

During the day, a Mr. David, a trader, had some of his mules run off by the Indians.

In the evening we learned that Mr. Glasgow and several of the traders had started to Santa Fé, hoping to meet Colonel Doniphan and get some positive information with reference to the place where they should be constrained to winter.

This morning Mr. Kerford's train moved down the river, and formed camp near "Fray Cristobal," which is 15 miles below. Mr. Kerford is an Englishman, and having an English passport, is very anxious to go on to Chihuahua, as well as Señor Algier, who is protected by a Spanish passport. The coming of Mr. Ruxton, with letters assuring foreigners that their property would be protected, has made many of the traders very anxious to proceed, for some of them have as much as 150,000 dollars worth of goods at stake.

This morning we completed our "adobe" chimney, plastering it within and without with mud, and we have now a complete structure, save the roof, which shall be made if we remain here any length of time.

Mr. Ruxton came over and sat a while with us. He said that he was going out deer hunting in the morning, and I told him that Reymond, who was a good shot, would accompany him, hoping that the latter would share the good fortune of one who had been very successful in hunting. Mr. Ruxton said that while he was at El Paso he met three Americans, who had been taken prisoners by the Mexicans four months previous. These persons had left the United States to go to California, by the way of Sonora; they were seized as spies, at the instigation of a man whom they had employed as guide from Santa Fé. The Mexicans had taken all that these poor fellows possessed, and they were now almost starving there, for they allowed them only a handful of "frijoles" and a few "tortillas" each day. Mr. R. said that he remonstrated with several persons, and with the cura Ortiz, who acknowledged that they were ignorant men, without any knowledge of the Mexican language, and in every way unfit for spies; in fact, that it was evident that they were no spies; still, however, these men were detained, and having tried to make their escape while Mr. R. was at El Paso, they were recaptured; all this in direct violation of the treaty between the United States and Mexico, which stipulates for twelve months' notice to Americans and Mexicans; besides, it was known to the Mexicans that these men had left before they had any knowledge of the war.

December 3.—Again another day of commotion; many going hither and thither. During the morning, we saw a long train of wagons pass, belonging to Señor Porros. All of us are most anxiously awaiting news of Colonel Doniphan's movements, and are heartily tired of staying here.

December 4.—To-day Captain Walton rode down, and expressed his positive determination to prevent any one from going to Chihuahua until Colonel Doniphan should arrive. This evening, however, all the traders assembled and drew up a letter to Captain Walton, desiring that Mr. Kerford should be allowed to proceed. His goods have come through the United States from England, in the original packages, and have been, thus far, free of duty; and now, if they are brought into competition with the goods of the other traders, it will be ruinous to them; but if Mr. K. is allowed to proceed at once, he will pass on through Chihuahua towards Zacatecas and Durango. As he has an immense stock of goods, this arrangement was greatly desired.

December 5.—The hunting party returned; they had been unsuccessful, although they saw many deer and wild turkeys. To-day we went up to Captain Walton's camp, when we found that he had gone down the river to visit his picket guard at "Fray Cristobal." On my return I got a fine specimen of the Mexican meadow lark, "sturnella neglecta."

December 6.—In accordance with the arrangement which I yesterday made with Captain Walton's commissary, I sent up my wagon to-day for some provisions. We obtained all we wanted, except sugar. While at the camp, we heard that one volunteer had been shot by another, in a brawl. We heard to-day of the death of Lieutenant Butler, Colonel Doniphan's adjutant. This news cast quite a gloom over our feelings, for he was much esteemed by all who knew him. Every moment we are expecting a mail, and ardently desire to hear the news, to be enabled to shape our course so as to reach the United States by the speediest route. The evening was extremely unpleasant; it was hard to tell whether it was raining or snowing. We cut down some huge cotton wood trees, and turned our animals loose to browse upon the tender bark of the twigs.

December 7.—During the morning I was busily engaged in skinning birds, we had killed eight Mexican blue birds, "sialis occidentalis." They differ from the blue birds of the United States, in having the back brown, and the wings tipped with black, and are more delicate in their contour. We find great numbers feeding upon the mucilaginous berries of the misletoe, which, in this vicinage, grows upon every cotton wood tree.

December 8.—We procured several specimens of the red winged flicker, "picus Mexicanus." On dissecting them I found their stomachs full of ants. In the evening, Mr. Houck, Mr. Kerford, Mr. Harmony, El Señor Algier, and El Señor Porros, arrived at our camp; they were going up to see Captain Walton, in order to make a more formal representation.

December 9.—Spent this morning in hunting quails, in the vicinity of the "mesa" below us; procured a female "ortix squamosa," in fine plumage. There are several coveys of these birds in the neighborhood of some sand knolls; but the ground is so overgrown with clusters of artemisia, and the birds run so rapidly, that it is difficult to see anything but their tracks on the loose sand.

This evening, we heard that Colonel Doniphan was approaching, and that Major Gilpin had already arrived within a few miles of us. There was also a rumor that General Wool would march to Chihuahua, but that he had gone by the way of Monclova.

December 10.—This morning I went up to "Parida," in order to purchase provisions. The river was full of floating ice, and for some distance from the shore it was yet unbroken. We were obliged to get logs and break a road for the wagons, and even then it was with considerable difficulty that we succeeded in urging the mules into the river. When we arrived at the opposite shore, we found Major Gilpin and his command. The men were without tents, and constant exposure to the cold and snow, on the high sierras of the Navajoes country, have given them a pretty ragged looking exterior. After we had proceeded five miles, we met Colonel Doniphan and his staff. He said that he should march for Chihuahua, as soon as the artillery should arrive from Santa Fé. We recrossed the river at San Pedro, and at dark reached "Parida," where we stopped at the house of the alcalde, Don Miguel Baca. He asked me if "El Señor Don St. Jago Polk, no està el Presidente de *nuestra* republica." I found out that he considered himself a citizen of the United States.

December 11.—Everything has just doubled in value, beeves are now worth $20 a head, and corn $6 the fanéga.

December 12.—The kindness of these people was remarkable; they gave us numerous presents of "ponche," or tobacco, and "chili colorado." At 9 o'clock we started, after having embraced the whole household. We were struck with their politeness; they always uncovered their heads when offering a light for our "cigarito;" and, when they made any movement, prefixed it with "con su licencea Señor." When an old patriarch of the village entered, they all rose and uncovered their heads; he, too, was a Baca.

About dark we reached our camp at Valverde, when I received several letters; and amongst them an order from the adjutant general, directing me to repair immediately to Washington city. I had already two orders to the same effect, one from General Kearny, and the other from Colonel Doniphan; and, as it was not known which way Colonel Doniphan would proceed after reaching Chihuahua, I determined to return at once to Santa Fé, and thence proceed to the United States, which was the only route open to me. Many of my friends represented the undertaking as almost impossible, but there was one trader who had crossed the prairies in the winter; and, as he had done it, I did not see why it might not be done again; moreover, my orders to return had to be obeyed.

December 13.—I obtained five beautiful specimens of the "ortix squamosa;" as the arsenic that we had obtained in St. Louis had been taken to California, I was obliged to fill the skins with corn meal.

In the afternoon we saw Captain Walton's picket guard returning; it had been relieved by Major Gilpin, who was now at Fray Cristobal, from which place he would proceed to San Juan, as soon as his animals had rested a day or two, preparatory to crossing the terrible "Jornada del Muerto."

December 15.—This morning, at 9 o'clock, we left Valverde for Santa Fé. On the opposite side of the river, at the crossing, we met Colonel Doniphan. He said he had been highly gratified with his march into the country of the Navajoes. From what I could learn, they build in a style similar to the people of Acoma, Santo Domingo, and the other Pueblos of New Mexico. They belong to the great Apache nation, together with the Cyotleros and Mezcaleros, of the southern regions, all of which tribes are said to speak the Apache language. Some of Colonel Doniphan's command visited the people of Zuñi, and succeeded in establishing peace between them and the Navajoes.

Before we had gone more than half the day's journey from Valverde, we overtook a party of eighteen men, who had left the employment of some of the traders, and were now on their way to the United States. I at once took them in my employment, considering myself most fortunate in thus obtaining a party in complete readiness for the intended journey, which would obviate the necessity of delaying in Santa Fé.

Continuing our route on the west side of the Rio del Norte, we encamped this evening near the little town of San Antonio, which is fourteen miles north of Valverde.

Although our mules have had nothing to do for the last four weeks, yet the cold and the insufficient nourishment to be derived from the grama grass had left them in a poor plight. One of them gave out to-day, and the men I left to drive it up, could not get it to camp.

December 16.—This morning I represented to the men I had engaged yesterday, the trials and difficulties that we would most likely encounter, and I insisted particularly that they should purchase a new set of mules, as those they then had were poor, and would inevitably die before they could get across the prairies.

This morning we passed Major Mitchell's command. Although his men were mounted on mules, still they presented a fine appearance, owing to the good discipline and regularity observed on the march. They had just passed us, when we heard a rustling of sabres, and looking round, saw the men all on foot, leading their mules. The movement was performed with such perfect unity, that one must necessarily judge them to be well drilled. I recognized in the ranks some brave fellows who had been with us through the country of the Kioways and Camanches in the fall of 1845. At noon we reached Socorro, which is by this route 27 miles north of Valverde. Passing four miles beyond the city, we encamped on the bank of the river.

We have now a journey of 136 miles to accomplish before reaching Santa Fé, where we will be in nine days.

We passed to-day a deserted town, which we were told had been left on account of the continued depredations of the Navajoes.

This morning I started off and walked as far as Limitar, for I had counselled my men to walk as much as possible, in order to prepare for the arduous journey before us. I wished now to enforce what I had so strenuously advised by my own example. Besides, I knew that this exercise would be of great personal benefit, as my constitution had not yet entirely recovered from the severe shock it had sustained from my illness in August. On our road we saw great numbers of redwinged flickers, shore larks, wild geese and brant; also many varieties of ducks, among which were the mallard, the merganier, and the teal. We saw also many cranes, the "grulla" of the Mexicans, but they were not so numerous now as they were when we came down the river. Although ornithologists have determined that the blue crane is only the white crane in its first plumage, still we did not see a single white crane during our exploration of New Mexico.

Arrived at the town of Limitar, the people came out in great numbers, bringing us mules to sell. I bought two fine ones, and exchanged a horse for a beautiful "macho," which, although a little wild, was indeed a valuable mule; he had never had a scar on his back, and was large, fat, and beautifully formed. Before the day's march was over we placed the "macho" in the wagon, and he worked as if he alone would drag the whole load. I found among my new men one named James Dobson, who had at one time been a soldier in the army, and had had the advantage of having crossed the prairies several times. I am but too glad to have one who has served in such a good school for acquiring perseverance and fortitude.

December 17.—Before we had proceeded far, we met a party of Colonel Doniphan's men with flocks of sheep and herds of cattle, on their route to join the army. In a little while we entered "Sabino," having crossed the mouth of the "Rio Puerco," which was perfectly dry. On our way we shot several mallard ducks, "anas boschas," and brant geese. In the evening we encamped near "Coralles," at the hacienda of El Señor José Chavez, having obtained the permission of el Señor. In an acequia that lay near our camp we saw several "muskrats," "ondatra zibethicus," but they were beneath the ice, and we did not shoot for fear of the ball glancing.

December 18.—Before starting we called on Señor Chavez to pay for the "zacate" that we had taken to feed our mules. He told me that he had lately lost a son, who had been carried off by the Navajoes, and that several of his peons had lost their wives and children. I was introduced to the ladies of the household; they had their faces covered with a thick coating of some whitewash that concealed every feature except the eyes. This preparation is not put on because they consider it ornamental, but, as I have been told, to protect the delicacy of the skin from being spoiled by exposure; for these ladies seem to think the "reboso" an insufficient guard to their beauty.

The females of the lower class love to ornament their cheeks with paint or pokeberry juice; the latter, when dry, makes them look abominable.

We made a long march, encamping at "Lentes," and passing through the towns of Corales, Belen, Saucillo, Galvadones, and Lunes. At Belen I obtained some beautiful specimens of selenite, such as the people of this region use to glaze their windows. They also calcine it and mix it with water, and with this mixture whitewash the facades of their dwellings and churches.

December 19.—Starting at daylight, we reached Isletta at noon. Here we saw a beautiful antelope, "dicranoceros furcifer." It had been wounded so that the pueblos had captured it, and it had now become perfectly domesticated. At Padillas we tried to purchase corn, but the people wished to receive $4 the cestal, (a bag ¾ vera wide by 1¼ veras long.) We passed thaough "Pajarito," and in the evening crossed the Rio de Norte and encamped at Albuquerque. We found the west side of the river to be much the best for loaded wagons; one thus avoids those terrible sand hills at Joyeta, at Socorro, and at Bosequecito; however, one must be cautious in crossing the Rio del Norte with wagons containing such immense loads as the trader's wagons, for some of the traders told me that the bottom of the river is not sufficiently firm to bear great weights.

At Albuquerque we found Captain Burgwin and Captain Grier, with their troops quartered in the adobe houses. They find the place very healthy, and the surgeon, Doctor Simpson, tells me that there is no sickness except amongst the Mexicans, who have lost many of their children by the measles and the whooping cough. Around the soldiers' quarters the sentinels were stationed in all directions, even on the tops of the houses, and the strictest vigilance was observed, no one being allowed to pass with the countersign unless recognized by the men on post.

December 20.—We now bade adieu to our brother soldiers, who seemed only to regret that they were not also going back to the United States. On our road we found much snow, which had apparently been on the ground several days; it was thawing fast, and the air was extremely chill. At Alemeda we stopped to purchase corn. One of my men came and told me that he had just been bitten by a dog. I told him to shoot it, which he did. When the poor woman heard the report of the pistol, she came immediately, crying out, "mortéron mi perro, mortéron mi perro," and looked dolefully. Indeed, I heartily pitied her, but she certainly ought to have kept such a dog tied, and it would not have been killed. Some Mexicans afterwards looked at the man's leg, but they seemed to think it was a mere trifle. We now pass through the pueblo "Sandia." On our march we saw a great many flocks of shore-larks, and many ravens, while the blackbirds, in immense flocks, were hopping about the fodder-stacks and sheds of the corrales. In the evening we reached the pretty little town of Bernalillo, and we encamped close by the neat haciendas at the northern extreme of the town. Here are the handsomest and best arranged vineyards in the whole department, and the houses show a greater appearance of wealth and comfort.

December 21.—In the morning, when I called to pay the charges of our landlord for the use of his corral, and for the bundles of "zacate" that our animals had consumed, he would not be persuaded to receive one real, exclaiming: "No, señor, no es vale nada." We made but a short march, and encamped about a mile to the north of San Felippé, among some old cultivated fields, which afforded grazing for our animals. While here, we saw many of the Indians of Santo Domingo, and we endeavored to induce them to bring "zacate" for our mules, but they seemed not to understand us; in fact very few of them understand the Mexican language.

December 22.—Last night we had a stampede among our animals, and this morning several of them were not to be found; I had lost one mule, and some gentlemen who accompanied me from Valverde had lost three horses and two mules. There was no doubt but that they had been driven off by some ill disposed persons during the night.

The rest of our mules were quite wild and difficult to catch. As I wished to try my skill with the "lazo," I gave chase to one of the swiftest. As I have so often been obliged to mention the "lazo," I will now attempt to describe it, and the method of using this weapon. The best "lazos" are made of strips of hide, generally of four strands, which are beautifully plaited; it has at one end an iron ring about an inch in diameter; through this the thong, which is about one-third of an inch thick, is passed to form the noose, which is so adjusted that the ring shall be at the extremity of the noose farthest from the hand. In this way it is grasped by all the fingers of the right hand, which thus serve to keep the noose open. The remainder of the lazo is neatly coiled, and rests on the forefinger of the left hand, while the extremity of the thong is firmly held by the remaining fingers of the same hand. As the thong is between forty and fifty feet in length, one is obliged to swing the noose horizontally until it acquires sufficient centrifugal force to reach the object of aim. The coils on the forefingers now pass off until at the exact moment, when, with a jerk of the left hand, the noose is made to close; then a turn is instantly taken around the pommel of the saddle, (if the person be on horseback,) which saves the rider's being pulled from his seat. In New Mexico there is no one "hidalgo ó puchero" who is not well skilled in the use of the all-powerful "lazo."

While we were searching for our lost animals, some of the Indians of Santo Domingo warned us not to go to Santa Fé, as the Mexicans were going to kill all the Americans there. We, however, left several men, with directions to continue the search for the lost animals, and proceeded with the intention of encamping on the "Rio de Galisteo."

On the road we saw four coyotls or coyotes, "canis latrans," and made several shots at them, but we were unsuccessful.

When we reached Galisteo creek we found plenty of water, which, although covered with ice, yet that could easily be broken.

December 23.—We were up before sunrise, and I had my mule saddled and started at a rapid pace. The day was pleasant, although cold. The snow that lay upon the ground seemed to increase in quantity as the distance to the city of Santa Fé diminished. At length I approached "Cieneguilla," and attempting to save distance by going across a marshy spot of ground, my mule immediately sank into the treacherous slough. As the ice was sufficiently strong to bear my weight, I soon got clear of the saddle. I now strove to extricate my mule; she made several desperate efforts, and then seemed to resign herself to despair. The ice, which had supported her thus far, now offered the greatest impediments to her efforts. I ran back a short distance to a place where I had shortly before seen a Mexican; he had gone. I now returned and took off the saddle and bridle also, lest the fear of the severe bit should prevent the mule's full exertions, and taking hold of the extremity of the lazo, I succeeded in turning her head towards the point where she had entered the quagmire, and soon succeeded in drawing out my "mula." For some time she trembled like an aspen leaf with cold and fear, seeming to think the solid ground a dangerous quicksand.

I soon overtook a Mexican who had a bottle of aguardiente, which he offered with great politeness. I eagerly accepted his proffer, for my pantaloons were covered with ice, from the mule having sunk so deep as to wet the housings of my saddle.

About midday I reached Santa Fé and found all the Americans there talking of an intended insurrection which had fortunately been discovered. Sentinels had been placed in every direction, all the field pieces and heavy guns had been parked in the plaza, every thing was in a state of preparation and every body in a state of vigilance.

The chief conspirator was Don Tomas Ortiz; he arranged the organization of the several detachments and the plan of attack; one company was to assemble in the church called the "parroquia," another in the valley of "Tezuque," north of Santa Fé. In the dead of night, at a signal from the bells of the church towers, the conspirators were to rush into the streets, seize the guns and massacre the whole body of troops.

The persons of the governor, Charles Bent, and the commanding officer, Colonel Price, were to be seized by parties appointed for that purpose.

December 24.—The artillery are busy making preparations to march, in order to reinforce Colonel Doniphan; the clanking of the anvil is incessant; caissons and gun carriages are strewed around the forges. At this juncture it is almost doubtful whether the safety of our citizens does not require that the artillery should remain.

It is expected that the wagons loaded with money for the troops will be attacked; a company has been sent to warn and escort them.

We hear that San Miguel is in a state of insurrection, and the whole country seemed rife and ready to tear down the glorious stars and stripes; to tear down the nest of the eagle from the rugged mountains of the west. The noble bird looks down from his lofty position and sees through the puerile attempts to dislodge him. Beware, beware of the eagle!

Since my arrival here, I had a long conversation with Mr. St.

Vrain about the practicability of going to the United States by the way of the Canadian, the route I followed in 1845. He cautioned me not to attempt it, as he had been warned by the Kioways of a settled determination of the Camanches to kill all the whites who should attempt to go through their country, and therefore he had not sent any persons to his trading houses on "El Rio Cañadiano." This hostile feeling on the part of the Indians has been produced by the great mortality which has this year prevailed among their children, which these superstitious people attribute to sorcery, saying, the whites have made a great medicine, and have blown an evil breath upon our children, and they vow to wreak vengeance upon the white man.

December 25.—As to day is Christmas, we endeavored to make our time pass as pleasantly as possible. During the day Captain Fischer's company of Germans paraded in the plaza; they were in excellent discipline and excellent order, and have worthily been dignified by the soubriquet of the "star company." They are regarded with pride by all Americans and with awe by the Mexicans.

We were quite anxious with regard to the safety of Lieutenant Walker, Colonel Price's adjutant. He had been sent to arrest Diego Archilet; in the evening, while we were at Colonel Price's quarters, he entered; he had not been able to capture the Mexican, and said that while searching his house, the people of the vicinity collected and manifested the most decided disapprobation; in fact, they assumed quite a threatening attitude, and seemed half inclined to attack him and his party.

A second detachment was sent off to capture Salezar, that infamous man who cut off the ears of the Texan prisoners who died on the route from San Miguel to Chihuahua.

In the evening two other prisoners were brought in; they had been exciting the Indians of Santo Domingo, and had succeeded in organizing a body of 300 Pueblos, when the plot reached the ears of some officers, who immediately started with a company of men, and appearing suddenly before the town, they got hold of one of principal chiefs and threatened to bring the artillery from Santa Fé and level the town with the ground, unless the two Mexicans were given up, and they were instantly surrendered.

At night we walked through the city; patrols were marching in all directions. During the night the countersign was changed, which caused us to be arrested by one of the sentinels. Fortunately, the officer of the day, Captain Weightman, was near, and relieved us from our predicament.

December 26.—I spent the day in preparations for my journey. As the wagon that I had brought had been much wracked by the rough roads over which it had passed, I therefore exchanged it for another, and procured some tools that would be useful in case of any breakage.

This evening Governor Brent gave an entertainment at the palace, which had formerly been occupied by ex-governor Don Manuel Armijo. We had all the luxuries of an eastern table, and delightful champagne in the greatest abundance. Indeed, we concluded it was better to revel in the halls of the Armijos, than to revel in the halls of the Montezumas, for the latter were poor uncivilized Indians, while the former may, perhaps, boast to be of the blood of the Hidalgos of Castile and Arragon.

December 27.—I had postponed leaving Santa Fé until Monday; nevertheless, I was obliged to attend to business during the day. I found that some of the men whom I had engaged had been tempted, by the price that the government was offering for mules, to dispose of those they had obtained at low rates when we passed through Socorro. Men who would thus break their engagements and promises were no loss to me. So I had their places filled by others; indeed, I had more applicants than I wished to receive.

I called to take leave of Colonel Price, and he most kindly furnished me with copies of all the papers relating to the intended insurrection.

I now found it impossible to obtain the funds which would be necessary to buy corn, and to defray the expenses of my party down the Missouri river. At length, Mr. St. Vrain generously offered to let me have sufficient for my journey.

December 28.—This morning we had a severe snow storm, which prevented my starting at daylight, as I had intended; for I proposed reaching the ruins of Pecos in one day. The snow fell heavily, so that we could not see the road; but, as the sky showed signs of the storm clearing away, I started off my command at 8 o'clock.

We had a difficult time clambering up the steep sides of the mountain. The ground was frozen hard, the rocks slippery with snow and ice, and our animals, unable to get firm footing, were constantly falling. When we reached the mountain summit, which is about 11 milles from Santa Fé, we found a party of volunteers encamped there. They had built large fires of pine logs, and were so busy warming themselves that we could not get a word from them. Still further on, we met the alguazil, Richard Dallum, who had succeeded in arresting Salazar.

Our road was strewed with the carcasses of oxen. Some were half devoured by the wolves and ravens, others had not been dead long, for the birds of prey had only torn out their eyes. Constantly encountering these repulsive sights, we at length reached the cañon from which Armijo so "ingloriously fled," and then encamped in the neighborhood of a large train of commissary wagons, which were going to Santa Fé. The wagoners had been greatly annoyed by the Indians, in crossing the prairies; they told us frightful tales of the bold daring of the savages.

December 29.—The sun now came forth from among the clouds, which he soon dissipated, and his warm rays rapidly melted the snow and ice, which impeded our progress. In several of the deep mountain gorges the lofty crags of granite beetle so high that an eternal shadow rests around. In such places the snow and ice had accumulated, and our animals found great difficulty to keep their feet.

I procured a beautiful jay, "corvus stellarius," and was able to preserve the skin. I also obtained a beautiful yellow finch, which proves to be the "fringilla vespertina." In the evening I sent some men to the village of Pecos, which is 2⅛ miles from, and to the north of, our camp. On their return, they said that they saw, near the ruins of Pecos, a curiously carved stone. It was now too late to see this carving, and we marched so early in the morning that I must needs leave this stone for some one else to examine.

December 30.—We saw, to-day, great numbers of magpies, which, in company with the ravens, were feasting on the innumerable carcasses of oxen that still strewed the road. We saw large flocks of stellar jays, which were flying gaily amongst the groves of cedar and piñon that cover the hills and valleys.

We have a fine view of the valley of the Pecos river, in which lies the town of San José, at which place I encamped; for I had heard that the route through this town was six miles shorter than that through San Miguel.

At this place the river Pecos is 50 feet wide; its waters are beautifully clear, and flow along with great rapidity, as if anxious to mingle with those of the Gulf of Mexico, into which they empty after having joined those of the Rio del Norte, at the Presido del Rio Grande.

We had an excellent road to-day; it is formed from the crumbling down of the coarse decomposing granite rocks, which form the neighboring sierras.

December 31.—We were all up before daylight; and, having given our animals a liberal allowance of corn and "zacate," we started, highly delighted with the idea of saving several miles by going direct to "Ojo Vernal," instead of passing through San Miguel. Having, with infinite labor, succeeded in mounting the high bluff which borders the river, we selected the plainest road, which seemed to be marked with the wheels of American wagons, but before we had proceeded far, a severe snow storm arose. We now urged our animals rapidly forward, with the intention of reaching the timber, where we should be sheltered from the violence of the storm. The wind blew, with great force, directly in our faces; the snow fell thick and fast; we could scarcely see, and our animals could scarcely be forced to face the cold blast. Every moment our progress was more and more impeded, as the falling snow increased in depth; at length, we reached a forest of pine and piñon. We now encamped, and the men soon heaped up huge pine logs, and, having set them in a blaze, we gathered around, endeavoring to dispel the numbness which had seized our limbs. After several hours' continuance, the storm at length ceased, and we resumed our march. Nearly all signs of the road had, by this time, become concealed by the snow; but we followed, as well as we could, the track we had been pursuing, until we found ourselves involved among precipitous cliffs and impassable ravines. We were now obliged to retrace our steps, and soon got out into the country where we could see. The storm had entirely cleared away. We could now perceive the high "mesa," which lies between San Miguel and Ojo Vernal. We, therefore, took a course direct for this mesa; and, before we had marched far, we arrived at a hacienda, where we obtained a guide, who soon put us on the right road. About sunset we reached the village near Ojo Vernal, and encamped. The man who drove my team was nearly frozen to death. He complained much of a sensation of sickness, and the men were obliged to rub him for some time, in order to restore circulation to his system. I gave him a large dose of rum, and had him taken into the house of one of the Mexicans. This man, had he walked as others did, would not have suffered.

The snow was now five inches deep. Towards evening a fresh breeze sprang up, which drifted the snow along the surface of the road. Everything was covered; even the dark forests of pine and cedar were hidden beneath robes of white; and now and then, when shaken by the wind, they cast off the snow in clouds that rose up like smoke bursting from cannon's mouth. At the village where we encamped, were some men, who had just returned from a hunt. They had killed several black-tailed deer, "cervus macrotis." These animals exceed the common deer in size, and in the length of their hair; their tail is round, and has a large round tuft at the end; their ears are very large.

January 1, 1847.—This morning, at an early hour, we made our arrangements for marching. We had passed the night quite comfortably, for the snow was so piled around our tents that the wind could not gain admittance. The morning was excessively cold, clouds of snow were drifting about, borne rapidly along by the strong wind. I now found that one of my men was ill with the measles. I wished to leave him here, where he could be taken care of, but he preferred to proceed; so I had him wrapped up warmly and put into the wagon. The man who came so nigh freezing yesterday, had recovered sufficiently to be able to walk. In a little time the wind died away, and the sun arose; his genial heat was truly grateful to us. The snow commenced to melt, and the walking became slippery and extremely laborious. After a tedious march, we reached "Vegas." Here one again meets with the infinitely extended prairies, which give birth to the tributaries of "El Rio de los Gallinas," and of "El Rio Moro," and following on in the direction of the "El Rio Cañadiano," are at last limited by the cross timbers. It is from "Los Vegas" and "Tecalote," that trails have been made which cross the Cañadian at the mouth of the "Arrojo de los Yutas." This is the shortest route to the United States, and would be the best route, if the road was definitely marked out. At "Vegas" I tried to purchase corn for the "cavalada," but the only person who possessed the corn, prepared as I wished it, seemed determined to take advantage of my necessity, and asked me an exorbitant price. Having offered in gold the price I had been accustomed to give, it was refused, and I was placed under the necessity of taking the corn, and notified the owner to that effect. The town was in a state of great excitement from the occurrence of some recent depredations of the Arrapaho Indians, who had driven off the flocks and herds of the Mexicans, and had killed and scalped the "pastores." We everywhere heard horrid accounts of diabolical mutilations to which the bodies of the victims had been subjected.

The Americans here, too, seemed anxious about some insurrectionary symptoms which were daily developing.

January 2.—We procured as much corn as we could well carry in our wagons, and I gave the owner a draft for a blank amount, leaving the quartermaster to decide what was the market price. We were detained a long while in crossing some "acequias," which had been filled with water during the night, and were now covered with ice. It was with great difficulty that our mules could be forced upon the ice, they had become so fearful of falling, and it was near eleven o'clock before we got clear of these troublesome acequias.

Soon after crossing the "Rio de los Gallinas," we saw large herds of antelopes, apparently from two to three hundred animals in each herd, but the snow on the ground exhibited the hunters in such bold relief as to prevent all possibility of approaching them without being observed. One of our hunters, by the name of Raymond, seeing the fruitlessness of continuing the pursuit, drew up his rifle and fired, although 400 yards distant; we all felt deeply disappointed when we saw the whole herd bound away, but before they ran very far one of them stopped and lay down, and soon a second shot laid it on the ground to rise no more. Shortly after this occurrence, we met a train of 50 commissary wagons going to Santa Fé. They had no corn for their oxen, and the poor beasts were suffering from want of sustenance and from exposure to the cold. Several of them lay dying by the road side. We encamped near "El Arroyo de Sepullo," at the foot of a lofty mass of rocks which completely sheltered us from the winds. Here we built our fires, and at night the huge projecting masses of rock, which beetled over our little camp, seemed, as they were illuminated by the ruddy glare of our fires, to be threatening to topple down. I suffered intense agony from my feet having been frosted. The greatest relief I could obtain was by keeping them firmly pressed to the ground. I had inadvertently mounted my mule after having walked in the wet snow, which had soaked through my moccasins, and when I came to dismount my left foot was frozen fast to the stirrup, so that I was obliged to draw my case knife and use it to free myself.

This morning the wind blew keenly, but we started before the sun was half an hour high. After marching one mile we reached the crossing of the Sepullo. Here we had a siege of troubles. The ice was very thick, and it required some time to cut our way across the stream, for the ice was not sufficiently strong to bear the weight of the wagons. The river banks were steep, and as the wagon rushed down to the water, the mules became frightened and swerved from the road we had cut, and, getting upon the firm ice, they were not able to keep their feet; several of them fell, and one, after making many vain efforts to rise again, gave up in despair, and we were forced to drag him out of the stream by main strength. As he had got very wet, and the air was freezing cold, we had to keep him moving about lest he should die. In a little while, by the help of ropes, which we attached to the uppermost felloes of the hind wheels, we dragged the wagon out, and immediately hitching up the beast that had got wet, we kept him in brisk motion until his limbs regained their wonted flexibility.

Having marched four miles further, we reached "El Rio Moro," and by being extremely careful to cut away all the ice, we crossed without any accident. But the fording of these rivers delayed us so long that our day's march did not exceed ten miles.

We encamped about three-fourths of a mile from the road, in a mountain gorge, where the high precipices which surrounded us completely protected us from the cutting winds. We had snow water for our own use, and drove our mules to a spring which was about a mile distant, near "Ponds in the prairie."

One of my men was perfectly overcome by the cold, and gave up entirely. We were obliged to put him to bed and we gave him large doses of rum. He complained of a pain in his chest and seemed to be tormented with extreme thirst.

This evening the duty of guard mounting commenced; I cautioned the sentinels to be vigilant, which was hardly necessary, as my men had already heard, at "Los Vegas," of the Arapahoes and their horrible attrocities.

January 4.—We were up long before day; the wind blew biting cold until ten o'clock, when the sun shone forth with some warmth.

We now noticed a great many prairie dogs that had come forth from their habitations to enjoy the sun's rays. I fired several times at different ones with a shot-gun; I wished to obtain one without injury to the skin, but I did not succeed in killing any.

Naturalists say, that the prairie dog remains dormant during the winter season; wherever we met with the villages of these little animals, we found them as lively as if it was summer; we must, therefore, conclude that this animal does not hibernate.

We saw great numbers of the antelope, they had congregated in dense herds, and were seeking shelter from the cold winds in the deep valleys and gorges.

Soon we arrived at some volcanic hills; which rise up just before reaching the "Rio Ocate;" in their vicinity there was but little snow. Here we found that the fore axletree of our leading wagon was broken in the hub of the wheel. With great care we managed to reach the Ocate, but were obliged to unload before we could cross. Here we encamped, and endeavored to make ourselves as comfortable as possible. We had plenty of cedar wood for fuel, but not one stick of timber fit to repair our wagon.

Near our camp were the carcasses of several oxen, upon which the wolves and ravens were gorging themselves. I also noticed some beautiful magpies, "Pica melanoleuca," and I killed a fine one.

January 5.—We now endeavored to patch the broken part of the axle. The lower "skeen" of the spindle was broken, we changed it for the upper one, and then started, determined to proceed until we should be obliged to leave this wagon. After marching five miles, we reached a deep gorge, into which we prepared to descend. There I found the "sand-board" of some wagon which had been broken in passing this abrupt declivity. We achieved the descent in safety, but just we as arrived opposite the salt lake, the wagon wheel broke entirely off. I immediately ordered the mules to be unhitched, and we set to work to splice the broken axle-tree. The piece of wood that I had picked up was of good seasoned oak, and of the exact width of the axle tree. By sunset we had finished the wood work, and it was now necessary to put on the irons.

To-day we saw great numbers of antelopes; in one herd there must have been nearly two hundred; and the prairie dogs were running about as if it were not winter. The morning was quite warm, and the little snow upon the road thawed rapidly. Several of my men are now sick with the measels; the poor fellows are suffering much. We are obliged to travel, and can take no care of them, and they are necessarily very much exposed to the inclemencies of the weather. Those who yet retained their wonted health attend to their duties with such zeal as seems to show that they know how much depends upon their efforts; and I am truly grateful to them for their support.

January 6.—At 3 o'clock this morning we were awakened by the beating of the snow against our tents. The wind blew a hurricane, and the pelting of the snow flakes sounded like pattering of hail. We had been obliged to encamp in an open valley, by the side of the wagon which had been broken; and in this exposed situation we had to abide the fury of the storm. Fortunately it soon cleared away, and we were able to resume our labor of repairing the axletree.

Our mules were loosened from their pickets, and permitted to range in the neighboring forests of pine and cedar, while the guard built large fires, and under the shelter of the trees passed their time more comfortably than any others of the party. At length we finished our work, and commenced packing up our baggage. I noticed around our camp great numbers of skylarks, ("alauda alpestris.") Some idea may be formed of the immense numbers in the flock, when I state that 25 were killed at one shot. Among them were several snowlarks, ("plectro-phanes nivalis,") one of which I skinned.

After returning to camp, we saw the ravens engaged in chasing some of the birds which had been wounded. They showed themselves as skilful in hawking as the falcon genus, and in a little time they captured five or six birds. Then an amusing scene took place, for the successful bird catcher was sure to be attacked by some of his fellows, who endeavored to make him drop his prey. We did not interfere, for we thought it best to let the wounded be devoured at once, than to die a lingering death.

At two o'clock this evening we commenced our march. The road was covered with snow, which was in many places very deep, and in some places covered with a hard crust, which was sufficiently strong to bear the weight of our mules, although it broke through beneath the wheels of our wagon. Towards evening we met some men who were plodding their way on foot to Santa Fe. They said that they had been obliged to leave their wagons on account of the depth of the snow, as it was impossible for their half-starved oxen to drag them any further. They spread the most discouraging reports among my men, with regard to the possibility of passing the Raton cañon; stating that the snow was five feet deep, and that the hill sides were covered with ice.

We encamped near the head of a little stream which empties into the Ocate, in a grove of cedar trees. The evening air was biting cold, and the faces of the men, when they first gathered around the fire, were covered with frost-work and ice, from the congelation of their breath; icicles hung from the hair on their foreheads, and their moustaches and beards were one mass of ice. This night was so bitter cold that I found it was vain to get asleep, and went out and sat at the watch-fires of the guard. Not a cloud was to be seen, the air was beautifully clear, and the brilliant constellations blazed so brightly as to appear to have approached a few millions of miles nearer to our globe.

January 7.—After marching about six miles, we crossed the "Rio Rayado" on the ice, which was sufficiently strong to bear the weight of our wagons. Here we saw the train of commissary wagons, to which the men whom we met yesterday belonged. A few persons had remained to take charge of the train; they seemed to think that they would have to spend the whole winter here.

Passing onward, we commenced the ascent of a long hill; it was the lee side, and the snow had settled here to the depth of from one to two feet. Every few moments we were obliged to stop and rest our animals. It was with infinite labor that the poor beasts succeeded in floundering through the deep drifts, until they at length arrived at the plain from which the snow had been blown, when our progress became comparatively easy, and we soon reached "El Rio Cimaroncito." We had much trouble in crossing this river, being obliged to unhitch the mules and work the wagons across by hand.

January 8.—At four o'clock this morning, our animals were turned loose, to graze upon the tender shoots of the willow and what else they could find.

The wolves had become emboldened by the feeble resistance they had met with from the broken down oxen which they find on the road. This morning they attacked our mules, wounding one badly about the nostrils, and gnawing off the "cabrestoes" of the rest.

As we did not intend to march this day farther than "El Rio Vermijo," which was only ten miles distant, we did not start until the sun had risen. We were encamped between the forks of the river; as it was necessary to cro[illegible] the other branch, we roughened the ice with axes, and scattered sand and gravel over it. As the banks were steep and frozen, we tied the hinder wheels so that they could not revolve, and wrapped the felloes in contact with the ground with coarse chains, to increase the friction; and having attached ropes to the hind axletree, so that we might hold back, men were stationed at the head of the wheel mules, to force them to hold back. All being now ready, we moved slowly up to the crest of the declivity, when instantly the wagon rushed down, in spite of all our precautions, and with such velocity, that the leading mules were overtaken; and wagon, and men, and mules, all were thrown together in one confused heap. Fortunately no one was hurt, nor anything broken. Some of the men now sprang to work, and unhitched the mules, when they regained their feet; after waiting until they had got over the fright, we again geared up and ascended the opposite bank.

About noon we reached the "Rio Vermejo;" here the ice bore up our wagon, and we descended to the river without difficulty. But the bank to be ascended stalled us; however, after a considerable delay we got over this difficulty, and immediately encamped. The constant labor and severe exposure my men had undergone, rendered some episode necessary in order to break the continuity of pains and trials; I therefore took some of the Indian goods with which I was provided, and parcelled them out into prizes, to be shot for with rifles. We spent the whole afternoon in shooting; and for a while we seemed to forget the past and to cease thinking of the future.

January 9.—We arose very early, and before the clock had struck five we had commenced our march. The snow upon the ground made more light than otherwise there would have been; as it was, there was difficulty in seeing the road.

During the greater part of the day it threatened to storm, and the atmosphere was so filled with minute particles of snow that we could scarcely see further than two or three miles around.

As we approached El Rio Cañadiano, we found that there had been but little snow there.

During our progress, we were continually starting herds of antelope from secluded valleys, where they had sought shelter from the inclemencies of the season. The day was extremely cold, and the snow-mist completely chilled us. It was only by continued friction of our hands that we succeeded in retaining their flexibility. Several times my moccasins froze to my stirrups. We pressed rapidly onward, and before noon reached the "Cañadian," and found an excellent camping ground, where we had plenty of dry timber and enough grass to appease the hunger of our half famished mules. Our day's march was twenty miles, which was a great march, for during the early portion of the day we had much snow upon the road.

January 10.—We now have but little snow upon the ground around us. The sun shines as if his power was trammelled by the benumbing influence of the cold. Although there was but little wind, yet we were glad to get sheltered from that little by our entrance in the pass of the Raton. Here stupendous escarpments of rock rise on each side of us, until they attain the height of 3,000 feet.

The first hill we met gave us considerable trouble; we were obliged to apply all the force we could muster to the leading wagon, and then return for the other. This method of carrying them up one at a time detained us a great while. At one place, the road took the bed of a stream; the ice had been repeatedly overflowed and frozen, so that it was now very thick, and too slippery for us to venture upon. We were compelled to ascend the western bank, and after proceeding about 40 yards, were obliged to re-cross this stream. When we came to descend the bank, we found one practicable place, and there the bank was not only steep, but sideling, and, to prevent the wagon from sliding off, we were obliged to fix ropes to the top, and to cut a deep channel for the wheels. It required a long while to prepare the declivity, for the ground was frozen extremely hard.

January 11.—This morning we found that all our mules had gnawed their ropes asunder and gone off. For a long time we searched in vain in various directions. Some of the men even went as far back as the Rio Cañadian; at last they were all found in a mountain ravine not far from our camp.

At 10 o'clock we commenced our march; we were continually obliged to cross the stream, which was very tortuous and had high banks. These crossings were full of difficulty. The mules would run on until they reached the frozen stream, when they would suddenly stop, and the wagon, rushing down the declivity, would throw all the animals in a heap on the ice. At one time every one thought that some of our animals were killed; one mule was thrown across the others, and it was with great difficulty that we could extricate them and set them on their feet. We now formed a strong pioneer party, and sent them in advance with their axes, pickaxes, and spades, to break the ice, to strew it with sand, and clear away all obstructions.

At last we commenced ascending the ridge which separates the waters of the Arkansas from those of the "Rio Cañadian." We reached the top of this dividing ridge in safety; but, as we commenced to descend, one of the wagons slid off sideways, and the fore wheels being suddenly caught by a deep rut, the axle snapped off in the wheel. We put the greater portion of the load into the other wagon, and, having lashed a long pole so as to support that extremity of the axle which had been broken off, we dragged the wagon to our camp at the foot of the slope.

One of the men killed a deer during the day; and we endeavored, as well as we could, to console ourselves for the misfortune of the axle with a feast of venison.

As we were determined our mules should not gnaw themselves loose again, we, this night, made them fast with the trace chains.

We were now 17 miles from the Canadian, and had this day marched 11 miles.

To-day we saw some curious birds, which our old hunters called the "paisano;" its true name is the "geococeyx viaticus." It is so little known that I have appended a description of it to these notes, *written by Major G. A. McCall.*

"The geococeyx viaticus, which the Mexicans familiarly call the "paisano," (countryman,) is found in Texas, from the river Nueces to the Rio Grande, in Mexico; from the seaboard, at least, to the

Sierra Madre; and, being an inhabitant of chapparal or thorny thickets, he rarely ventures beyond its borders. Although the toes of this bird are disposed in opposite pairs, as in other species of his family, yet the outer hind toe being reversible, and of great flexibility, is, in either position, aptly applied in climbing or perching, as well as on the ground. Thus, he at times pitches along the ground in irregular hops; and again, when the outer toe is thrown forward, he runs smoothly and with such rapidity as always to be able to elude a dog in the chapparal, without taking wing. He feeds on *coleoptera*, and almost every species of insects; and near the Nueces, where the snails, "lymnaceus stagnalis," abound, it is greedily eaten," &c.

I have only to add, that this bird is found throughout the Raton pass, and some individual specimens have been seen on the Arkansas river, a few miles to the west of Bent's fort.

January 12.—In some of the ravines near our camp, and in the cañons of the mountains, there is still to be found sufficient grass for "muladas," not more numerous than ours. We, therefore, drove our mules into the mountain, and then set ourselves to work to repair the broken axletree. As we had carefully treasured the pieces of wood that we found on the road, we soon obtained a piece well suited to our purpose, and again we lost a whole day in repairing this unfortunate breakage.

In the evening Brown went out to hunt, and soon returned, saying that he had killed two black tailed deer. As he was unable to bring them to camp, he had thrown his coat over them to keep away the wolves until he could get mules and bring them in.

As I had had no exercise during the day, I started back with Brown in order to get the deer. The country over which we passed was intersected by deep ravines, and some of the hill sides were so steep that it was with great difficulty we forced our mules to proceed. At length we reached the deer, and found them untouched by the wolves. Having packed them upon our mules, we returned to camp.

These deer were of the species called "cervus macrotis." Brown said that he had seen several mountain sheep during the day, but they were so wild that he could not approach them. They are the "capra montana" of Harlen. I have found them as far south as Valverde, in New Mexico.

On the 13th of January we again resumed our march, feeling much refreshed by a day of rest. We had several difficult crossings to make and steep hills to climb, but my men did their duty bravely. As the sun shone forth with considerable warmth, the snow commenced to thaw, and the road became slippery and muddy. Three times we were forced to travel in the bed of a stream for a long distance. We were obliged to cut up the ice with our axes for a distance of fifty or sixty yards, and then to clear out the pieces which choked up the stream, before the mules could be forced to proceed. At length some of my men rushed into the water, notwithstanding the season, and catching the mules by their heads, they forced them to keep in the middle of the stream, and effectually prevented them, notwithstanding their frequent attempts, from leaping up the banks on either side.

We now reached one of the steepest acclivities we had seen in the whole journey. We took all the mules, and as many of the party as could find room at the wheels, and carried our wagons up one at a time. It was painful to see the poor beasts so terribly beaten, and shocking to hear the blasphemous oaths which were uttered; but all seemed to forget themselves in the excitement of the moment, while they strained every nerve, and while the woods resounded with whooping and yelling. When we reached the top of the hill, the old pine trees of the mountain sides shook with deafening shouts and cheering. To look at this hill, it would seem impossible for loaded wagons to achieve the ascent.

Before we had proceeded far, we found several broken wagons; the tongue of one of them was of hickory; this we took, as we wanted helves for our axes, and pickets for our mules. We made an early camp near a grove of dead cotton wood trees, and close by the road side; we built large fires, and every one had his roasting-stick loaded with venison, which was soon sputtering before the flames. Although we were many hours on the road, yet our day's march did not exceed eight miles.

January 14.—Not long after leaving camp we reached the last difficult hill that we would have to encounter, for the remainder of the road from here to Bent's fort rises and falls in gentle slopes.

As soon as I had seen the wagons safely over this hill, I took Laing with me and set off for some coal beds which I had formerly visited on my way to Santa Fé, when I had not been able to find any traces of ferns; but as Laing had once worked in a coal mine, and seemed to be positive that he could find me impressions such as he had seen in the carboniferous formations of Missouri, I set out with renewed hopes; but after a long search he was obliged to confess that there were none. We however obtained several specimens of the fossil leaves of dicotyledonous plants. These were of two sorts: one a lanceolate leaf, resembling that of the willow; the other a large cordate leaf, like that of the catalpa, and both sorts of leaves are distinctly marked with branching veins. This formation extends throughout the Raton, according to the report of my hunters.

The specimens of coal and of fossils which I procured here, as well as all the geological and mineralogical specimens collected during the exploration, have been submitted to the inspection of Professor Bailey of West Point, who has kindly consented to examine them.

While hunting fossils, large flocks of stellar jays came flying along the bluff; they were chattering noisily, and in this respect they are like our blue jay.

We soon overtook the wagons, and about 1 o'clock we reached the "Rio de los Animas," or Purgatory. Here we found a large train of wagons, and saw some of the teamsters who said that they had taken their winter quarters here, and that they should wait until spring before venturing to cross the Raton. They told us that game was very abundant; that they daily killed great numbers of the black-tailed deer, common deer, antelope, and turkeys. There is excellent dry wood here in great abundance; the stream is lined with groves of dead locust and cotton wood, which have been killed by fire or inundation.

We were now clear of the much dreaded pass, but our troubles still continued; the measles seemed to be spreading amongst my men, and already four of them were so ill that we had to lift them in and out of the wagons. We marched 14 miles.

January 15.—We made an early start this morning, and after a march of 12 miles we reached "Holes in the Prairie," where we encamped. As we knew that we should find no wood here, we brought a large quantity from the Purgatory.

The road over which we travelled was quite level, and entirely free from snow. We therefore reached our camping place at an early hour. There we met Captain Murphy, who was conveying several wagon loads of specie to Santa Fé.

I told him of the state of feeling in New Mexico towards our people, and learned that he had already been put on his guard by an express, which he had met near Bent's fort.

He told me that my mules were too poor to go through this trip, and cautioned me against the Arrapahoes, who, he said, were then encamped near Chouteau's island, and who had a great number of mules that were branded with the letters U. S., which they refused to give up. He also informed me that all the grass was burnt up on the prairies between Pawnee Fork and Council Grove.

In the evening the wind suddenly changed to the north; it became very cold, and before night we had a snow storm.

As our mules were losing flesh fast, notwithstanding our feeding them with corn every night, I determined to adopt Captain Murphy's plan, in letting them run loose all night.

To-day another of my men was taken ill; his eyes were terribly swollen, and before evening he seemed to be the sickest man in the party.

January 16.—Although our mules had strayed off some distance, still we managed to catch them all in good time, and at 1 o'clock we reached "Hole in the rock," where we encamped in the centre of an extensive forest of cedar. Huge trunks of these trees lay strewed around in all directions, and there was plenty of good grass and water in our vicinity. In a little time, fires were kindled on every side; each person had one of his own to sit by; the dense foliage of the cedar trees completely sheltered us from the wind. Could we always have had such a place as this to camp in, we could never have suffered from the cold.

During the march we saw a great many prairie dogs. Laing killed one with his rifle, but the bullet had mangled the little animal so that it was not worth skinning; this dog was so fat and looked so nice that we had it cooked, but it seemed to be very tough, and it had a flavor which was not altogether palatable.

January 17.—Last night the wind blew very hard from the south, but we were so comfortably situated that we did not heed it much. This morning it was still blowing with great violence, although at our backs; our mules travelled slowly, and would not go fast. We saw great numbers of antelope, but killed none. After marching six miles we reached a cañon called the "Willows," through which the "Timpa" flows. I had intended encamping there, but the wind rushed through the gorge at such a rate that our tents could not have stood a single instant. We therefore proceeded two miles further, and encamped again in a grove of cedar trees, on the margin of the valley of the "Rio Timpa." We could not find any dry wood and were obliged to use the green cedar, which made pretty good fires, and as it crackled in the cheerful flames gave forth a delightful odor.

The Timpa was quite hidden from view, as the banks are perpendicular and about 20 feet high. Although a few cotton wood trees grew along the bottom of the stream, they were hardly tall enough to be seen. The ice was so thick that it was with difficulty we could obtain water for ourselves and our animals. We found that it was not so salt as that nearer the mouth of the stream.

January 18.—We left camp as the sun was rising. The air, although still, was biting cold. Our breath condensed instantly upon the collars of our coats, every part of our faces was covered with frost-work. Our road being level and in good order, we progressed rapidly. Passing a little to the north of the usual camping ground we encamped.

Here we found a few sticks of wood, which had been left by some preceding travellers, and the greatest abundance of prairie sage, "artemisia," which burns brilliantly and throws out a great heat. But it consumes so rapidly that it keeps several persons busily engaged supplying the fire with fuel. One of my men killed an antelope during the march. Although we saw a great quantity of game daily, still the extreme cold deterred every one from hunting.

As we approached the three conical "buttes," which are described and figured in the report of the journey pursued by Lieutenant Peck and myself, in 1845, we found an innumerable quantity of fossil shells of the genus inoceramus; the calcarious rock on which these shells are found is of a slaty fracture, and breaks into very thin sheets, which are covered on both sides with impressions of those shells.

January 17.—We had a long search this morning for our mules, which had wandered off to a great distance during the night. It was ten o'clock before we succeeded in catching them all. I now started for Bents' Fort, having given directions to my party to camp as soon as they reached the Arkansas river. I reached the fort at 2½ o'clock after a rapid rot over a distance of 27 miles. Herds of antelope abounded on both sides of the road. They were feeding among the wild sage which covers the valley of the Timpa. As my approach set the herds in motion, the startled hare would spring up before them and dash across my road.

Having reached the fort, I immediately made my arrangements for leaving the sick, the number of whom had increased to seven, and for obtaining provisions for the rest of the journey. Owing to the great facilities afforded me by Captain Enos, I was enabled to conclude my preparations that evening, so that it would not be necessary to detain the wagon on the following day for more than one or two hours.

The thermometer has been all day seven degrees below zero; and I was told that, for several days previous, the temperature of the air had been of the same degree of coldness.

January 20.—This morning was bitter cold, although there was no wind. At eleven o'clock, my party arrived. We at once commenced crossing the Arkansas river. To do this, we were obliged to carry sand and spread it over the slippery ice on the route we had selected. Although the ice was generally eight inches thick, yet in one place, for the breadth of six feet, the rapid current was running clear; this circumstance increased the difficulty of crossing.

As soon as we reached the fort, the sick were carried into a comfortable room, where they were to remain until next spring, when they might return to the United States. Our axes and tools were sharpened, our wagons examined, and we took the precaution to obtain an extra axletree. In two hours we were again on the march, and at evening formed our camp six miles to the eastward of the fort.

My friends at Bent's Fort cautioned me with regard to the want of grass on the burnt prairies between Pawnee Fork and Council Grove. I therefore determined to save my corn until we should reach the burnt prairies, and until then permitting the animals to run loose.

We had already used eight of the fourteen fanegas, which we had obtained at "Las Vegas."

January 21.—The sun was half an hour high before we left camp; we had an excellent road, it was smooth and very hard, wherefore, although we moved at an easy gait, we reached the "Big Timbers," and encamped an hour before sunset. Not far from our camp, there are the ruins of some old trading houses. Here were some immense cotton wood trees, which were already felled; with them we built roaring fires. We were now twenty-seven miles from Bent's Fort, and had sped our way so pleasantly, that we conceived brilliant hopes of our future progress.

January 22.—We soon came in sight of the Cheyenne lodges. The Indians had all gathered here, where they might have shelter from the storms of winter. Thoughout our day's journey, we saw their lodges lining the banks and covering the islands of the river. The "Big Timbers" afford an endless supply of wood, and on the plains, on the south side of the river, the grass is very good, while the unfailing waters of the Arkansas, in addition to the requisites already mentioned, make this spot one of the most eligible for the erection of a military depot, in case the government intends to maintain its intercourse with New Mexico.

We met a white trader amongst the Cheyennes, who warned us against the Arrapahoes, who, he said, were daily coming in with herds of cattle and numbers of Mexican scalps.

About sunset, as we were travelling slowly along the banks of the river, an Indian approached us, making signs to have us encamp; he said that he had a large supply of dried Buffalo meat, and he could bring it to us if we would encamp near his village. In the evening a number of squaws came to our camp, bringing the promised meat. Although we paid them well with such trinkets as we possessed, yet they could not have been perfectly contended, for we found, after their departure, that they had carried off all our axes, together with two guns and a bullet pouch. These thefts occurred after my men had been warned to be upon their guard; certainly, no people can be more skillful in thieving than the Cheyennes.

January 23.—This morning, as soon as we arose, we saw the Indians returning. In front came the chief of the village, and as soon as he was near enough, we saw that he carried some of the stolen articles. The squaws brought more meat, but I refused to take any of it until all the missing articles were restored. The chief told me that if I would go up to the village with him, he would get them; the village was two miles distant, but rather than loose our axes I consented to go. As soon as we approached the lodges the chief commenced haranguing his people in a stentorian voice, and then invited me into his lodge. In a little while the Indians came running to us, and every article was restored.

Shortly after leaving camp we met a company of men who had been sent from Bent's Fort, with a wagon load of corn, to meet Captain Murphy at the crossing of the Arkansas; impeded by heavy snows, they had only succeeded in getting thus far on their return to the fort.

At sundown we reached a spot where the river bottoms were all burnt; no wood was to be had. We crossed over to an island which was covered with willow bushes; here we were pretty well sheltered, but the willow brush was so light and consumed so rapidly that we found not much comfort by our camp fires. At the mouth of "Big Sand creek," I obtained a very curious fossil, supposed to be an inoceramus.

January 24.—On account of the prairies having been burnt, our mules wandered off for five or six miles. We did not get away until eleven o'clock. Thus we were obliged to lose the best part of this day, on account of the inexcusable negligence of some preceding travellers who had not extinguished their camp fires.

After the first three miles, our road became extremely difficult. We had to march through snow which had laid on the ground some time. It had thawed, and had afterwards frozen, sometimes bearing up the wagons and mules; sometimes giving way so as to render our progress slow and difficult.

To-day we saw some buffaloes. I sent out some of the men to kill one of them, but they were very shy, and the snow upon the ground prevents one from approaching without being perceived. Having marched 22 miles, we reached "Little Sand creek." We crossed over to an island, where there was plenty of fine timber. We also found here several Indian wigwams, which had been made of brush and covered with grass that had been cut in the summer. This grass was just what we could have wished for our mules, and there was enough of it to have sufficed them for a week. In the evening we saw a fine "bald-headed eagle." It lit upon a neighboring island, which could not be approached without wading through an open space in the river, or else I should have sacrificed its life to obtain its skin.

January 25.—Some of our mules got off of the island during the night, but we caught them again without much difficulty. Soon after starting we met an Indian travelling along the road on foot. I asked him if he was a Chyenne; he answered with a nod, and went on.

At two o'clock, after a hard drive of 16 miles through snow, we encamped under the shelter of some cotton wood trees which grew near a dry creek.

Our present location had been lately occupied by Indians. On every side were to be seen circular spaces, which had been covered by their lodges, and the pieces of bark that they had placed under their beds.

One Indian came to our camp. As he said, the village was near, I sent one of my men to it, who purchased some winter mocasins. These are made of buffalo robe, with the hair side in; by inveloping the feet with slips of blanket, and putting on these moccasins, we were able to keep comfortably warm.

January 26.—We had a bad start this morning. In passing through a deep snow-drift, one of our mules, not being able to extricate its feet, was thrown across the tongue of the wagon. There was a hard crust on the snow, which, breaking through beneath the wheels of our wagons, impeded us very much. The air was exceedingly cold, and the wagon wheels made a noise in the frosty snow like the screaming of a large flock of blackbirds. Our mules had a terrible time of it; where the crust on the snow bore them up, their feet were slipping about and wrenching their limbs violently, and when it broke through, they were plunging up to their knees, and scraping their legs against the sharp crust. They were soon smoking with sweat, and puffing and blowing with the violence of their exertions; every little while we were obliged to stop. But our difficulties decreased somewhat towards the latter part of the day, and we succeeded in making a march of fourteen miles, when we found a good camping place, with plenty of wood, and on the islands in the Arkansas, as there was good grass for our animals.

January 27.—As the day was very cold, and the deep snow gave us a great deal of trouble, we were not able to accomplish more than nine miles of our journey. We encamped near the spot where one C. P. Gibson had been buried. A piece of board, bearing the name of the deceased, and dated January 1, 1847, points out to the traveller the resting place of this poor man, whose death adds one more to the many which have occurred upon the prairies within the last eight months. The ravenous wolves had already been at work on the grave, but the frozen ground had proved too much for them.

Near sundown an Arapahoe chief arrived, named by the whites "Long Beard." He paid me a visit, and in the evening I went to return the compliment. His lodge was the most luxurious habitation I had seen for a long time; there was no place where the cold winds could find entrance, and a few pieces of bark in the middle of the lodge kept it perfectly warm. "Long Beard," finding out that I belonged to the "soldiers," produced a gilded epaulette which had been presented to him at Bent's Fort; he also showed me a scrip of paper, signed by Mr. Wm. Bent, which paper mentioned "Long Beard" in the highest terms of commendation. This chief spoke a great many Spanish words, which enabled him to make himself understood. He told us the snow was so deep that our mules could only nip the heads of the tallest grass, and begged us not to attempt to proceed, as there was no grass and no buffaloes in the direction we were going, and that the scarcity of the necessaries of life had forced him to leave that portion of the country, where his children and his horses had been starving for some time past, and that he was now in search of meat for his people and grass for his animals. While we were here we saw the squaws kill a fat puppy, and having singed the hair, they put it into the pot for supper. Dogs are considered a "bon bouche," only to be served on festal occasions, but rather than starve, poor "Long Beard" was obliged to be thus extravagant. It was well he kept his fat dogs under his eye, or some of my party might have been tempted to commit similar extravagances.

This evening we had some target shooting; although it was very windy, there were some excellent shots made.

January 28.—The sun now burst forth with some power, and, assisted by a western wind, caused the snow to thaw rapidly.

We made a march of twelve miles and encamped near a grove of cotton wood trees, and not far from a village of Cheyennes. The Indians immediately flocked round us in great numbers; they said that they had had nothing to eat for three days, as the snow that covered the country had driven the buffalo off to find pasture grounds.

Many of them offered me presents, hoping that I would give provisions in return, but I could not receive their presents, as I had no provisions to spare. They then begged me to give them whiskey, and annoyed us with their pertinacity, so that I would have driven out of camp, had I not been obliged to let my mules run loose all night, which circumstance they would have profited by to retaliate if we had given these people any offence.

January 29.—As we were preparing to depart, the Cheyennes gathered around us in great numbers. One of the principal men brought his whole family, which consisted of his wife, four or five sons and as many daughters, and desired me to give them something to eat. He said that they had been without any meat for the last three days. As all our provisions were packed away, I refused to give him food, and, after he had left us, we found that he had carried off a powder horn and bullet pouch belonging to one of the men.

We had hard work all day, as the snow was deep. When we came to cross the ravines and beds of streams that unite with the Arkansas, we found that all the snow had drifted to the eastern bank, which we were obliged to ascend. These drifts were from five to six feet or more in depth; the mules sunk to their bellies and struggled through with great difficulty; the wagons sunk until their "beds" rested on the surface of the snow; still we crossed these places, although they were sometimes thirty or forty feet wide; and in the face of these difficulties we made a march of thirteen miles.

When we encamped, we were again obliged to suffer for the unpardonable negligence of persons who preceded us, for the prairies, for miles around, had been laid waste by fire. Fortunately, the ice was in such a state that we could cross to the opposite side, and to the islands; but we were obliged to work hard, in covering the ice with sand, so as to make a path for our mules. We found plenty of wood on the islands. It had been brought there by the river.

January 30.—Yesterday, the road was so covered with snow that we were obliged to guide our course by the river; but, this morning, we again found the road. It was, however, with great difficulty that we managed to keep in it. Although the sun shone, and the snow thawed very much, still our progress was difficult. It required the greatest perseverance to accomplish eleven miles. We encamped in a bottom of tall swamp grass; here we found some old wagons; we were obliged to burn them, for the river was in such a state that we could not cross upon the ice.

One of my men told me of a method of catching buffalo that I do not recollect to have ever heard; he says that the Ricarees make piles of buffalo dung so as to look like men, and arrange these piles in two lines which, gradually approaching, lead to a pen. Having driven the buffaloes between these two lines, the animals run on, without daring to cross these lines, and are caught.

January 31.—We have another day of brilliant sunshine; indeed, it seemed hot. The snow began to melt away rapidly.

After a march of five miles, we met Mr. Sublette who was travelling with important letters to Santa Fé. Soon afterwards, we met a train of six wagons belonging to Messrs. Bullard & Hook, of Missouri. It had been to the crossing of the Arkansas to raise some "caches," which some of the proprietors of this train had been obliged to make early in the fall.

We now received news of the conquest of Monterey, and we also heard that our forces were being concentrated at Tampico, preparatory to marching upon the city of Mexico.

Shortly after passing these people, we encountered some wolves following their trail. So intent were the wolves in their employment that they came quite close to us, holding their heads near the ground as they scented the tracks of the men, when one of my party levelled his rifle and killed the foremost. These animals have became very daring; one of our mules came into camp this morning with its fore-leg badly bitten by them, and covered with clots of blood.

After a march of twelve miles we encamped near the fort which those men who were attacked last fall by the Pawnees had built, to protect themselves while they sent to Bent's Fort for assistance.

February 1.—The sun shone forth with warmth, and the melted snow made the ground quite muddy. After proceeding five miles we passed the "Arkansas crossing." We marched all day without seeing any good places to encamp. At length our mules became so worn out that we could scarce go any further, nor was the prospect of finding wood on this side of the river any better in advance of us.

One of the men had just killed a fine buffalo; I sent out a mule to bring in the meat, and we encamped. The river was in such a state that no one could cross without wading a good portion of the way, although the ice was in many places six inches in thickness.

The wind had been fair all day; it suddenly changed to the north, and began to blow with great violence, while dark clouds seemed in an instant to cover the sky.

I now saw it would be an eventful night for us. Our fires were blown out by the tremendous violence of the wind, and we were forced to get into our beds and there abide the fury of the storm.

February 2.—All night the storm raged with a fury as awful as that of the "tormentes" of Mt. Blanc. The particles of snow beat with wild rage against my tent, while the frail structure quivered, and the poles that supported it creaked and groaned so much that it was impossible for me to sleep. Such was the force of the wind, that it drove the snow through the canvass walls of my tent, and I found my bed and papers covered with it. During the night I heard one of the men, who had got his feet wet in attempting to cross the river, imploring some of his companions to let him get into the wagon with them. The night was terribly cold, and I feared that all of our animals would be frozen to death before morning. At length morning came, but when I looked out the snow was drifting along in dense clouds of hard icy particles, that flew along with the velocity of lightning. As the sun began to appear the storm ceased, and it was most fortunate for us that it did cease. I now forced my way out of the tent, which was banked with snow. When I looked around, a scene of utter desolation presented itself; most of my men had lain down on the ground to sleep, but now not one of them could be seen. I called aloud; they heard me not, being covered beneath the deep snow. I now went to the wagons; in one I found Pilka and Laing; in the other, two or three men, one of whom had been very ill ever since leaving Bent's Fort. He came rushing towards me half distracted, his shirt covered with snow, his head bare, and crouching at my feet, he implored me to take him to a house. "O, Lieutenant, take me to a house! I shall freeze to death! I'm freezing! I'm freezing!" His arms were drawn up and stiffened, his body almost paralyzed with cold. I took the poor fellow and put him in my own bed, and covered him with blankets and buffalo robes; it was all I could do.

We now searched about and found the men by the aid of the cracks on the surface of the snow, caused by the movements of the restless sleepers; covered by the heavy mantle of snow they had kept extremely warm, and now the chill air felt to them more intolerable.

We managed to find a few pieces of wood that we had collected last night; the wind still blew so fiercely that we could not kindle any fire out doors; we succeeded in lighting some pieces of wood in the tent and then built our little fire on the leeside of the wagon; the men crouched around silent and shivering; I now called on two of my men to come with me, they were two of my best men; they had been hardened to peril in the service of the fur companies; men who would not flinch under the most fearful vicissitudes; they readily accompanied me, and we started down the river in search of some spot which would furnish us with fuel and shelter; we proceeded down the river some distance, but seeing no timber on this side, we crossed the river upon the ice, which was now sufficiently strong to bear us up; we built an enormous pile of logs and set them in a blaze, and I sat down to dry my moccasins and leggins, for I had broken through the ice while crossing a treacherous spot in the river.

My men were now sent back to collect all the property and to harness up the mules, and move down to a spot directly opposite the timber; many of them left their bedding, clothes, and guns buried beneath the snow, and, half crazed with their forlorn and weather beaten condition, hurried down to seek shelter.

At length the wagons arrived and we endeavored to drive the mules to the south side of the river, where they would have good pasture grounds; some, however, took fright (when half-way over) and rushed back, and one broke through the ice; we immediately passed ropes under the belly of the animal and soon drew it out of the river; to keep its blood in circulation we dragged it backwards and forwards; all would not do, its limbs became momentarily more and more stiff, and at last the poor beast fell to the ground; we put three buffaloes robes upon it and left it.

My men now reported the full extent of our misfortunes; three of the mules were found frozen to death, and half hidden by the snow that had drifted upon their dead bodies; around this heap the other mules were gathered, to screen them from the storm, and the "laryettoes" of the living were entangled about the dead. It is more than probable that all of them would have met with the same fate, had the storm endured twelve hours longer; our mules were now driven to a spot about one mile below us covered with willows and swamp grass.

We built our fires on the southern bank of the river, in the bed of a dry creek, the banks of which afforded shelter from the wind; the night was clear and excessively cold; we were all obliged to sleep without tents, as the ground was frozen so hard that tent pins could not be driven, and when we had softened the soil by building fires, the sand became too loose to hold the pins.

February 3.—This morning we arose at an early hour; packing up our camp furniture, we recrossed the river and marched a mile further down the Arkansas.

The mule that we had drawn out of the river had recovered sufficiently to regain its feet; some corn was given to it; but during the past night it had wandered off a few yards and was attacked by wolves, and devoured while endeavoring to regain the wagons; the saddle blanket that I had girted around it was torn to pieces. Poor mule! it met a cruel death after going through so many troubles; it was the last one of the set with which I left Bent's Fort on the 9th of last September.

To-day Brown was struck blind, from the effects of the glaring light reflected by the snow. We left him in camp until the afternoon, when I sent some men to gather up his clothing and lead him into our new camp.

Those who had left their property at the camp when the storm occurred, took spades and went and dug it out.

The men in camp overhauled the provisions and the bedding; although our wagons had each two covers, or sheets, they were full of snow.

On a fallen tree, against which we built our fires, we read that which follows: "J. Abrea, Y. Litsendorfer, C. Estis, March 11, 1846." "A storm." This gave us new encouragement, for we felt that other men, under the same circumstances, and in the same place, had felt, suffered, and thought as we had, and we felt that we, like they, could weather the storm.

In the evening, some of the men led Brown into camp. He said, that while lying near our old camp fires, listening to the bickering of the ravens and magpies, which were contending for the scraps we had left, he felt something give his buffalo robe a jerk, and looking round, he saw several wolves; they ran off a few steps, seeming to have but little fear of him; his eyes pained him so much that he did not attempt to shoot.

February 4.—We again started at our usual time, and in good order, leaving many articles which only served to encumber us. As our "mulada" was now weakened by the loss of the four frozen mules, our progress was slower than heretofore.

During the first few hours, it was with difficulty that we could keep the road, which was covered with deep snow; in many places it was a foot deep, although, now and then, we found little spots on the road that were perfectly bare, and in the river bottoms there was but little snow. At midday the sun shone forth with warmth, the snow began to thaw, and our progress became comparatively easy. We marched fifteen miles, and camped near a fine grove, where we found some dry wood and pretty good grass; although the buffalo, which had recently been here in great numbers, had much impaired the grazing.

The greatest inconvenience that we have suffered on this march has been caused by the negligence of others with regard to the camp fires; which negligence having caused the destruction of the pasture grounds, our mules would wander off, and we frequently lost much of the day in catching them. It is no wonder that the Indian looks with hatred upon the whites, who go about spreading desolation, by their shameful waste of pasture grounds which the Great Being has planted. This winter the buffalo have almost deserted the river, because there is no grass for them; and the Indian, forced by the inclemencies of the season to seek shelter in the timber, which grows only on the banks of the river, must now travel a long way from his village before he can obtain meat enough for his subsistence. There should be some measures taken to protect the prairies from being set on fire.

February 5.—We had scarcely left camp, when the wolves and ravens clustered around the smoking embers of our camp fires. During the day Laing killed a wolf, and he also killed a badger, "taxus labradoricus." Continuing our march, we passed beyond the point where the road turns off which goes direct to Pawnee Fork, and passing three miles beyond Jackson's grove, encamped in the open prairie.

For fuel, we used the "bois de vache," and the pools of melted snow near our camp supplied us with water. In the evening we twice heard the report of a gun; but, as we had noticed during the day fresh signs of wagons and oxen, we supposed we had overtaken a party of teamsters who had gone on from Bent's Fort, and who had taken the direct road to Pawnee Fork.

February 6.—This morning when we arose, the buffalo were numerous all around our camp. We began to get every thing ready for the march, and sent off the guard for the mules; it returned without them, and reported that not one of our animals could be found.

I now sent Pilka; in a few hours he returned, and reported that the Indians had carried off our mules; he had found their trail, which led off to the north. This trail was perfectly straight; there were no signs of any mule having turned aside to crop the tempting grass, through which their course sometimes led. We no longer doubted that the mules had been carried off by the Indians. I questioned the guard, and learned that the mules had run into camp as the day was dawning, but they were driven out again, as they were tearing the wagon covers with their teeth, and destroying every thing they could get hold of. Had the guard been used to travel among Indians, the conduct of the mules would have caused them to have caught them, and to have secured them to the wagons.

What were we to do? To pursue the Indians on foot was vain. We were now left with our wagons containing our bedding and provisions, and a sick man who had not been able to walk for the last week. What now was to be done with all the geological and mineralogical specimens, and the collection of objects of natural history, which had been obtained in New Mexico? I thought of "caching" every thing, and walking into the States; but what was to be done with the sick man? Some of my men proposed leaving him with the provisions, to abide his chance on the prairie; "for," said they, "must we all die for this one man; is it not better that one should die?" But I determined not to leave the poor fellow, without certain provision for his safety. We were off from the usually travelled road; it was necessary that we should return to it. Once I thought of remaining until I could receive mules from Fort Leavenworth, but in bringing them to me they would again be liable to be stolen by the Indians.

Near our camp we found two broken down oxen. We hitched them to one of the wagons, and with the help of the men we moved to a spot that would be easily defended, and where we would be sheltered from any storm that might come.

February 7.—I now determined to proceed at any rate, depending on the resources which yet remained to me, without involving myself with new uncertainties.

I again sent out a party to reconnoitre the country, wishing "to make assurance doubly sure." It was hard to believe that our evil stars had been so dominant; not a trace of the lost mules could be seen, for the little spots of snow which yesterday bore their vestiges had to-day melted away.

But nothing annoyed me more than the idea of losing my various specimens, which had already cost so much time, labor, and anxiety.

At last I determined to destroy one of the wagons, and to throw away everything that we could possibly dispense with, and then to put ourselves into the traces and drag the lightest wagon as far as Pawnee fork; there I should leave the sick man, with some persons to take care of him, and the rest of the party would pack their provisions and bedding on their backs, and start for the settlements.

February 8.—We begun our preparations; the warm clothing that we had brought to protect us from the rigors of winter was thrown away. The men destroyed their buffalo robes, retaining only one for every two men of the party. I parted my wardrobe amongst my men, and no one reserved any apparel, except that which he had on his back; everything was now disposed of except our powder and lead and our provisions.

We now drove up the two steers which fortune had thrown in our way; we fed them bountifully with the corn we had treasured up so carefully. Having found that the oxen could not work in mule harness, we manufactured a yoke, by driving into a bar two pieces of wood; these pieces were in pairs and had holes in the ends, so that cords being passed through the holes, they were tied under the throats of the oxen. A long rope was attached to the tongue of the wagon, and the men formed loops of ropes or bricoles which they passed over their shoulders, and then attached at intervals to a long rope which was fastened to the end of the tongue.

We now started amid the loud exulting cheers of the men, as they thus triumphed over our difficulties, when we seemed to have reached the "ne plus ultra" of misfortune. To have seen us, one would have thought that we were on some lively frolic, whereas we had undertaken to haul a loaded wagon from Jackson's grove to Pawnee fork, which is a distance of 64 miles by the river route, the one which we pursued.

We marched a distance of 13 miles, and at night were obliged to encamp in the open prairie. Our fires of "bois de vache" served well enough to boil our coffee, but very little heat was to be obtained from the burning of this kind of fuel.

February 9.—To-day we marched fifteen miles; a slight rain that fell last night made our progress more difficult than that of yesterday. Just as the sun was setting, and while I was searching out a fit place for our little camp to halt for the night, I looked back and saw a dense group of men suddenly rise up from behind the river bank, where they had been secreted; they now spread out to disply their numerical strength; they had a little flag displayed in token of amity, and they made signs to us that they wished to approach. We now permitted two of them to come forward, and I went out with Laing to meet them. They offered us the hand, telling us that they were Pawnees, striking their breasts and crying out Pàwnye! Pàwnye! The one who styled himself the "captain" asked why we were pulling the wagon, and wanted to know if all our oxen had died; and added, that if we wished he would furnish us with mules, for he had a great number on the opposite side of the river. He said that if I would encamp now, that in the morning he would bring some of his mules across the river. As amicable relations were now established, he signed for his party to approach, and we went on to the wagon. Finding that the Indians were mingling amongst my men, I told the chief in a loud tone to order them to keep away; they instantly obeyed him. We now encamped; all the Indians crossed the river except the chief and five others. I invited the chief to stay with me all night; he consented, but still retained his five attendants. I told him that they must not stir about at night, for my guards were always on the watch for thievish Indians, and they might be shot by mistake.

At night they all crowded into my tent, and slept coiled up in a little space scarce roomy enough for me alone.

February 10.—The morning was extremely cold and threatening, clouds were flying rapidly across the sky. Our Indian friends, as soon as they looked out, raised their hands high above their heads, and, permitting them to hang loosely from the wrist, shook them as one shakes water from the tips of his fingers, and then they would touch some white object; by these signs they meant that "white rain" would fall when the sun was at such a position in his path, which position they indicated to us. They asked my permission to go to their own lodge until the snow storm should have passed, and they begged me to accompany them. I determined to go, although the ice was not strong enough to bear a man's weight; but I suspected that these very Indians had stolen our mules. Accompanied by the six Indians, I started across the river. A strong north wind was blowing on our backs; this helped us along, for we were obliged to keep our feet wide apart, in the position of those of a person who is sliding on the ice; but, nevertheless, we all broke through constantly, and where the current was deep and rapid we were forced to wade. The air was freezing cold, and as soon as we reached the southern bank of the river, we set off in a hard run to keep our wet clothing from freezing our limbs. The Indians were not less wet than myself, for they had tied their leggins close around their ancles to protect their legs from being injured when the ice broke through. After a run of a quarter of a mile, we arrived at the Indian lodges. The chief called three of his party, who took my socks and leggins and moccasins; with little sticks they beat off the ice; they wrung the water out of my clothes, and dried them by the fire. In the meanwhile I was obliged to sit with as little clothing on as ever any Indian wore. The Indians soon fixed a place for me to sit. In a short time they cooked some buffalo meat, and gave me the largest share of fat and of lean, which they placed on a flat stone in fault of a plate.

Feigning after a while that I wanted to re-cross the river, I stepped out to reconnoitre. The snow storm had caused the Indians to collect their mules in the little gorges which abound among the sand hills that are found on this side of the Arkansas; the mules were also covered with skins of wolves and buffaloes to protect them. I could not see any thing of the mules I had lost. The snow storm now raged fiercely, and I returned to the camp of the Indians, telling them that the storm raged too furiously for me to cross the river. We laid down to sleep, which was now and then interrupted by the entrance of some of the Indian sentinels, who reported every change in the weather, or any movement among the buffalo; although the latter were very numerous, still these Indians were almost without food; and while I was with them some of the subordinates came to dance the "beggar's dance" before the chief's lodge. I asked him what the dancers meant, and was told that they wanted something to eat. The chief then gave them some buffalo meat. This confirmed me in the suspicion that these fellows had stolen our mules. It was now evident that they were here for some mischievous purpose, and would not fire at the buffalo for fear passers-by should hear their guns, and track them to their lair. I asked them why they did not kill buffalo. They answered, without hesitancy, that their guns might notify parties of Cheyennes, which were continually making "war paths" through their country. I asked them what they were doing here on the Arkansas. They said that there was no grass towards the northern region where they lived, and that they had brought their mules here to graze; but, be it known that they were without their women and children, and without lodges, not travelling like a peaceful grazing party, but prepared for war and robbery.

In the evening the storm cleared away; and, with the polite guidance of the Indians, I managed to cross the river without breaking the ice, which was still weak, although much stronger than it was this morning.

My men had lain abed all day, in order to keep warm, for there was no wood to be had on this side of the river with which to build fires. I told them that they could get plenty of wood on the opposite side; but they broke through the ice, and were obliged to return; we were fain to use "buffalo chips."

February 11.—This morning my men arose early and crossed the river without trouble, where they got plenty of wood; the snow storm we had yesterday, and the discomfiture produced by the hard labor of hauling the wagon, had put them in no very pleasant humor. They wished that I would let them kill the Indians as soon as they came across the river; the Indians came; they entered our camp, and seemed instantly to perceive the feeling that was burning in the hearts of my party; they stood off without daring to approach our fires; there was but six or eight with the chief now, but he approached at last and offered his hand, and immediately the confidence of the rest seemed to be restored.

In my own mind, I did not doubt but that these fellows had robbed us; still I could never kill any of them in cold blood, nor would I consent that my men should shoot them down.

We told them to bring over some of their mules; they brought two, but refused to let us have them, unless we gave them much more than they usually get in fair trade.

We had left our harness near Jackson's grove; the mules could not then be attached to the wagons; and, as to buying a mule for myself, which my men insisted upon my doing, I felt perfectly willing to share the hardships of my party, and unwilling to countenance what I considered an imposition on the part of the Indians.

The Indians left us in high irritation, on account of the trouble they had had to get their mules across the river; they immediately recrossed, and we prepared to take up our line of march. We now found that an axe which had been lent to the Pawnees, with which to roughen the ice, had not been returned; the Indians stood gazing at us from the opposite bank, while their mules, scattered along the river side, were quietly grazing. I called the men together; and, leaving two of them in charge of the wagon and sick man, the rest of us started off in pursuit of the Indians, who no sooner saw this movement than they hastily gathered their mules and set off for the sand hills. To pursue these fellows was evidently vain, and we were forced to give up our axe, and again put ourselves into the traces.

We marched twelve miles. During the first half of our journey, some of the Pawnees continued to dog our trail.

The language of the Pawnees bears a great resemblance to that of the Riccarees. I had a person in my party who once traded with the last mentioned tribe. He recognized many of the words that the Pawnees used. Our communications were, however, carried on by the means of the pantomimic language, a knowledge of which is of very great value, as the various signs seem to be universally adopted as typical of the same things among all the prairie Indians.

February 12.—Notwithstanding the snow storm of the 10th, the ground was almost entirely free from snow, except in the ravines and beds of creeks where it was not exposed to the wind. The sun shone forth with great vigor, and we marched more rapidly than we had done on any preceding day. At ten o'clock we crossed the mouth of "Coon creek," and about five o'clock we formed our camp on the banks of the "Pawnee fork." This day we marched more than twenty-one miles. On the road we found two more steers. With them we replaced those which we had started with in the morning, and which were almost exhausted. When we first came in sight of the timber on "Pawnee fork," my chief anxiety was to keep my men from laboring too severely; the wagon ran along at the rate of three miles an hour, and I was obliged to walk rapidly in order to keep out of the way.

My whole party had done their duty bravely; in the most literal sense, we had worked like horses. I could not ask my men to do more. Should a heavy fall of snow come it would be impossible to proceed with the wagon. I, therefore, determined to give each one as much provision as he would choose to carry on our coming pedestrian excursion to the settlements. We had now between 280 and 300 miles to march. We determined to accomplish this journey in twenty days.

Two of my men, Brown and Preston, agreed to stay with the sick man. They were now on the high road, where they would see every one who passed, and would have, before a great while, an opportunity of joining the return party, which was preparing to leave Santa Fé when my command set out. While here they would have everything they could wish. There was an abundant supply of timber, a never failing stream of good water, and we would be obliged to leave a large quantity of provisions, as no one would care to load his own back for the gratification of his stomach.

February 13.—We now set earnestly to work, making our packs of provisions and bedding as light and compact as possible. We baked all the bread we intended to carry. Each one provided himself with 20 biscuit or rolls, one for each day. We also took a few pounds of dried buffalo meat, which is light and compact, but swells up in boiling water. We each had a tin cup, which would, on an emergency, answer for a coffee pot. We, therefore, added the luxuries of coffee and sugar. As for bedding, a buffalo robe and a blanket were all that any one would be willing to carry three hundred miles, when he recollects the additional weight of his provisions. But I adopted a plan which made my blanket worth two. I had it sewed so as to form a bag. This, trifling as it may seem, greatly augmented my comfort.

We were all of us very careful to dry our clothing before going to bed; no one who observes this precaution, and who is provided with a buffalo robe, need ever get frozen.

February 14.—I still found means to carry my New Mexican specimens further on. My books and some of my papers were put into a box and "cached;" for greater safety the spot was fixed so as to resemble a grave, and a tombstone of board was erected to mark the spot, and engraved with the name of "Tom Poco," who with "Tom Bien" were, according to some of my men, the most famous persons in New Mexico; perhaps these persons originated only in their metamorphoses of the words "tampoco" and "tambien."

The most valuable box was lashed to the fore axle of the wagon;

we attached the two oxen to the tongue and started. After a march of seven miles we reached "Ash creek" and there encamped.

I now resolved to let some of my men go on as rapidly as they could, and get mules at West Port, Mo., with which they could meet me at Council grove. I therefore sent for Pilka, Dobson, and Wiseman, and having given them all necessary letters, they prepared to set off by sunrise the next morning.

February 15.—To-day the sky was cloudy, and threatened us with a storm; the air was very cold. After marching six miles we reached "Pawnee rock;" here we stopped a few minutes and kindled a fire; again continuing our route, we marched sixteen miles further, and encamped on Walnut creek. Here we overtook the express party, and we had a hearty laugh at our having overtaken them; but Pilka was a good woodsman, and would not leave the timber when the sky looked so threatening, otherwise they would have gone on, and have slept in the open prairie.

February 16.—Just as we were about starting this morning, a fine mule came trotting into camp. We tried to catch it, but it had become so wild that it would not let us approach sufficiently near. This mule had a blind bridle on its head, the rein hung dangling upon the ground. As soon as we crossed Walnut creek, we came in sight of herds of buffalo. These animals were continually running across our road as we advanced. Sometimes they would stop just in the road a few hundred yards in front of us, and kneeling down, toss the dust into the air with their horns, or else take a roll over on their backs, then springing up, dash off again with their long beards and manes waving in the wind.

After a march of fourteen miles we encamped at "Plum buttes." We got water from some neighboring pools, and the plum bushes answered for fuel.

In the afternoon a band of buffaloes started for the river; they came directly towards our camp; we all secreted ourselves in the bushes at the top of the butte. We had "the wind" of the buffalo, and they came on without discovering us; they walked slowly along; having suffered the old bulls to pass on, we selected a fine buffalo and fired down upon him; he only ran a short distance before he laid himself down. We approached warily, for we were all on foot, and fired a second gun, which caused the buffalo to lay flat upon his side. We were instantly upon him with our knives and tomahawks. Laing gave a mortal wound to a fine fat cow, but as she would get up and walk off every time he tried to approach, and as night was drawing on us apace, he deemed it more prudent to leave his victim to the wolves than risk the loss of his own life by Indians.

We cut out all the marrow bones and all the choice pieces, and spent the best part of the night in cooking and eating, and during the night the wolves eat up everything we had left.

We would have been very glad if we could have carried some of this meat with us, but our packs felt heavy enough without any addition.

February 17.—I had intended to march to Chavez creek, about

19 miles distant, but the poor fellows who were with me complained so much of the soreness of their feet, that I determined to encamp at "Cow creek," which is only 11 miles from "Plum butte." Here we found a good ox-yoke, a thing we greatly needed. There was also a wagon and several muskets, which must have been left by the party of teamsters who had preceded us. It was evident that the express I had sent on had encamped here last night; their fires were still burning.

About 2 o'clock we saw some persons approaching; they proved to be Mr. Miller and Mr. Hoffman, of Baltimore. They were nearly out of provisions, and their mules almost broken down. From them we learnt everything with reference to the fiendish massacre that had been perpetrated at "Taos." Nothing I had undergone had caused me more unpleasant sensations than the news of the horrid massacre of Governor Bent and his compatriots.

I had been acquainted with Governor Bent ever since my first arrival in New Mexico. I esteemed and admired him greatly, and every one in that country looked upon Charles Bent as one in a thousand.

When the fiends were breaking through the roof of his house, even after he had been wounded, his wife brought him his arms, and told him to fight, to avenge himself; he could easily have killed some of the mob, who were entirely exposed to his aim, from the hole they were making.

"No," said he, "I will not kill any one of them, for the sake of you, my wife, and of you, my children. At present, my death is all these people wish." The murderers rush in, they kill him, they scalp him, and, horrible to relate, they parade the bloody scalp through the streets of "Taos."

Mr. Hoffman and his party continued their journey. In a little while afterwards we descried another body of men approaching; they proved to be a party under the command of Mr. James Brown; he had kindly picked up the men whom I had left at Pawnee Fork, and had also raised my "cache," which he had brought along for me. Mr. Brown agreed to carry the baggage belonging to my men, and we now felt as if all our troubles were ended.

February 18.—We were up before the sun rose, and in a few minutes commenced our march. In the evening we encamped on the "Little Arkansas," which is 20 miles distant from our point of departure this morning. We had started with the intention of marching 10 miles further, but this evening it looked stormy and threatening, so we determined to encamp in the timber of the Little Arkansas.

February 19.—This morning, before we had proceeded more than 5 miles, we met J. Dobson, whom I had sent on the express; he told me that there was a team belonging to the government at "Cotton Wood fork," in charge of the wagon master, Mr. Smith, who said that he would carry every thing that I had on to Fort Leavenworth; fearing a storm he had set out to reach "Cotton Wood fork," where he would await my arrival. We encamped in

the evening at "Turkey creek," here there is no
and besides this, all the grass around us had been burnt up.

February 20.—Last night we had an awful storm, it still continued. Several mules have been frozen to death. We have been obliged to lay abed all day, in order to keep warm. The snow is still drifting about furiously.

February 21.—This morning is the first time for thirty-six hours that any one has ventured out of bed. My men had their provisions ready cooked, and shared them with Mr. Brown's party; of all the tents that had been pitched Friday night, mine was the only one which still remained. The snow had heaped up around the rest so that the inmates were obliged to desert them, and take refuge in the wagons. About mine, the wind had swept in such a way as to keep open a path around it, although the snow was on a level with the ridge pole of the tent. We now broke up some boards that were in the wagons, and kindled a little fire. Soon the sun rose; but, instead of one sun, we had three; all seemed of equal brilliancy, but, as they continued to rise, the middle one only retained its circular form, while the others shot into huge columns of fire, which blended with the air near their summits. The breadth of the columns was that of the sun's apparent diameter, and their height about twelve times the same diameter; they were between twenty and thirty degrees distant from the sun. Before the sun had risen more than ten degrees, this phenomena entirely disappeared. Some of the men called my attention to this strange appearance, but so engrossed were they with their own calamities, that they hardly seemed to be in the least astonished at what they saw.

After some little while we missed Preston and the sick man; we inquired, but no one knew anything about them. It was now evident that they had been buried beneath the snow drift, which, for some distance around had filled up the nook in which we had encamped to the level of the prairie; as the drift was of considerable extent, much time would be wasted in examining it, unless we could find where they had pitched their tent. At last, I noticed one poor fellow digging away to find his boots; he showed me where the sick man had been. I called the men, and immediately set to work. The snow was six feet deep, and we had only a little piece of board to dig with, and the cold was so great that no one could work very long before his hands became perfectly rigid. After a good deal of hard digging, we found a pair of boots, which were recognized by the men as Preston's property. This urged us to renewed exertions; at length we cleared the snow from a portion of his buffalo robe, and lifting it up, we got sight of the poor fellow's face; he cried out in a weak voice, begging us for God's sake not to leave him to die. We assured him that we would not forsake him, and again covered his face until we could remove more of the snow; having dug as far as his waist, five men caught hold of him to drag him out, but the snow had been moist and was packed very hard, and he was held tight by the tent which had been broken down by the pressure of the snow; however, we dug a little more until we could get at the ridge pole of the tent, which we cut in two with our axes. We now drew Preston out of the drift, which had like to have proved his grave. His bed-fellow, who had been much weakened by sickness, was already dead; he was the man whom we had dragged from Jackson's grove to "Pawnee fork;" where he had been picked up by Mr. Brown; since which time he had been recovering fast. Poor fellow! it was his destiny to leave his bones on the desert prairies, where wolves howl his requiem. I caused the men to dig him also out of the drift, and to put his body into a wagon, in order that we might bury him at the Cotton Wood fork.

Preston complained bitterly of the cold; the sudden chill which he experienced when we dragged him forth (for he seemed at first to be in a perspiration) instantly stiffened his limbs. He begged, he prayed, that we would bring him near the fire; but we put him into a wagon, and, wrapping him in buffalo robes, we started on our march.

Several mules had already been frozen to death. As we proceeded, mules, that had started off in apparently good condition, would drop down in the harness, and their limbs would become perfectly rigid. Even one of the oxen fell down benumbed with cold. In a few hours we lost six mules and one ox, so that our road was marked out with dying animals. As we approached our destined camp ground, we saw a wolf that was so badly frozen as to be unable to move. One of the men put an end to its sufferings by a bullet from his rifle.

The snow on the general surface of the prairie was not more than three or four inches in depth, so that I accomplished the march without any great difficulty by twilight; but none of the teams arrived until 11 o'clock that night.

February 22.—I now made all my arrangements for going on with Mr. Smith, leaving my men to await the movements of Mr. Brown, who had agreed to transport their provision and bedding as far as Independence, Missouri.

During the day, we dug a grave for the unfortunate man who was suffocated beneath the snow. On a high bluff point, that overhangs a deep pool of quiet water, close to the spot where the road crosses Cotton Wood fork, is the last resting place of poor Pilcher.

Mr. Brown was in great embarrassment all day about the safety of his teams. Several of them had not yet arrived; the poor animals had been out another night upon the prairie, where they could not get a morsel to eat.

In the evening, Preston came into camp; he had been put into a wagon that remained last night upon the prairie, about 8 miles distant. This morning he started and walked to camp. He looked as if he had been sick for a long time, so great was the shock his constitution had sustained. He told us that when he first awoke, he felt very comfortable, and had no difficulty in breathing. At length he perceived his companion was dying. He now made efforts to escape from his perilous situation, and found he was hemmed in on all sides by the snow. He redoubled his exertions, but his struggles served only to exhaust his strength, and he found great difficulty in breathing. The full conception of his awful situation now burst upon him; he struggled violently, but not a limb could he move, and he had sunk into the depth of despair, when we fortunately rescued him from his icy tomb.

Once more an air of happiness seemed to diffuse itself over the faces of the men. Preston's story awakened us to a lively perception of the fearful vicissitudes through which we had passed. Our hearts acknowledged how futile would have been all our efforts, unless assisted by the Great Being who rules the winter storm. The men seemed to vie with each other in reciprocating acts of attention and kindness, and it seemed as if there were no bounds to the generous impulses which actuated their conduct towards myself.

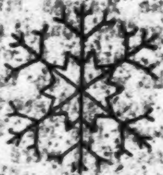
February 23.—My pedestrian exercises were now terminated, after having accomplished 179 miles of the 352 miles which lie between Jackson's grove and Fort Leavenworth. Although I was perfectly willing to walk, and had now become so accustomed to do so, that I felt no inconvenience from the exercise, still I was not permitted to choose; Mr. Smith made me mount his horse, while he journeyed on foot. We found Mr. Hoffman and Mr. Miller, who had started yesterday morning at the same camp with ourselves. They had been obliged to leave their wagon, and pack all their camp furniture on their mules. We halted within three miles of the Diamond spring, where we found plenty of green elm, for fuel for our fires.

February 24.—The day was stormy and cold, but we heeded not the weather, and pressed on until we reached "Council grove." Here we found grateful shelter in that noble grove whose huge walnut trees raise their limbs aloft, as if to battle with the clouds in our defence, while their lower boughs were stretched over us to shield us from the pitiless pelting of the storm. Paroquettes were sweeping rapidly in large circuits among the topmost branches of the ancient denizens of the forest, and their screams shrill and grating echoed through the lofty arches of boughs, now shorn of their summer glory. During our day's march, flocks of the pretty snow lark were continually taking wing as we advanced, and warbled forth their sweet notes as they flew. As soon as darkness shrouded us, some large screech owls commenced a serenade, and the forest rang with a concert of their doleful music.

Here, as well as at "Cootton Wood fork," we saw a great many prairie hens, but the snow on the ground caused us to be instantly perceived by these watchful birds, which take flight the moment we endeavor to approach them.

February 25.—It is again cloudy and very cold; a high wind is blowing from the northeast, and now and then a fog of snow arises and the small icy particles, driven by the fierce winds, make one's face feel as if raked with briar brushes. We encamped at one of the Beaver creeks. Here one of Mr. Hoffman's men killed a racoon, which was divided among his party, being the only meat they had to eat. While sitting by camp fire, I noticed some beautiful forms which were assumed by the particles of snow which fell on my blanket. They resemble stars with six radii; each of these radii was ornamented with beautiful arborescent shapes resembling the cross of "Santo Domingo."

I noticed that all the icy fibres of these flakes made angles of 60° with each other; this was invariably the case with all those that I saw. The annexed sketch is an exact figure of these curious crystals.



The storm which produced these flakes bore a greater resemblance to the "snow fogs" than to a regular storm; only a few flakes were falling, so that they did not inconvenience us in the least, and we paid no attention to them except to examine their beauty.

February 26.—When we awoke, the ground was covered with snow, and it was stormy all day; the wind of the north blew hard, the snow fell fast, the ground became soft and slippery, and the ravines were filled with water. It was bad travelling for the wagon, and much worse for the men who were plodding along on foot. We, notwithstanding, made a long march, encamping in the evening at "110 creek," which is 26 miles from the preceding camp. We built huge fires, and soon made ourselves quite comfortable, although the fine particles of hail which had pelted us all day still continued to fall. The woods had been full of prairie chickens; in all directions we noticed their foot prints in the snow.

February 27.—We determined to make a long march, and in spite of the continuance of the storm we started at a very early hour. The mist of mixed snow and hail fell almost uninterruptedly throughout the day. Clouds after clouds were chasing each other across the gray sky. Once the sun shone forth with sufficient brightness to cast a shadow, but its brightness was in the next moment obscured. Under foot it was wet and slippery; the road was full of pools of snow and mud. We marched twenty-five miles to "Willow spring," where the road to Fort Leavenworth turns off towards the north; continuing our journey two miles further, we encamped on a stream which adds its tribute to the waters of the river Wakaroosa. Here we found a plenty of hickory wood, a fine spring, and as good grass as the season affords; during the day we saw flocks of snow larks and several prairie chickens. The ravens have given place to the crows; the latter birds seem to confine their wandering to the precincts of American corn fields.

February 28.—We had now but thirteen miles to march before reaching the Kansas river. I rode on rapidly, and soon overtook

9

Mr. Hoffman's party; they had been almost starving for the last two days, and were travelling rapidly, in hopes of soon reaching some Indian hamlets where they might procure food; they soon reached a house, the first they had seen for a long while, and they then asked for food for themselves, and fodder for their animals. The Indians who lived here told them that it would be wrong to sell anything, as it was Sunday. But they soon found other Indians who were not so scrupulous.

When we reached the Kansas river, we found it full of ice, which was so packed together that it stood up edgewise, and seemed to offer an impenetrable barrier to our progress. We halloed to the Indian ferrymen who were on the opposite side of the river; they jumped into a flat boat and started to reach us; but, finding they could not get through the ice, they returned; we were, however, determined to cross if it were possible; and, getting into a flat boat which happened to be on this side of the river, we pushed off from the shore; soon our boat became wedged in the ice; we then pushed it back far enough to acquire impetus to rush forward; by innumerable repetitions of this manœuvre, we forced our way clear into the rapid current of the stream; the long poles that we were using could not touch the river bottom. But we fortunately had "sweeps" on board; with them we rowed our boat, and managed to land on the opposite side. Our men now jumped ashore and "cordelled" our craft up the stream to the proper landing place. Our successful passage over was entirely due to the perseverance and good management of the wagonmaster, Mr. Smith.

We encamped on the river bank, where there is no scarcity of all the varieties of timber that the heart of man can desire.

March 1.—At the dawn of day we prepared our frugal repast. We now felt at home, and as the sun rose there seemed to be a cheering brightness in his rays which is not to be seen in "New Mexico," nor on the prairies.

There was a majesty in the lofty groves which now surrounded us, and a music in the plash of the wild duck as it lit upon the bosom of the river; there was music even in the scream of the paroquette that swept over our heads; there was a charm in everything, for we now really felt that our trials were at an end.

At a rapid pace I started off for the fort. As I passed through the bottom lands of the Kansas, the prairie chickens were constantly flying up with a loud whirring sound.

At an early hour in the afternoon I reached fort Leavenworth, where I was most kindly received by Colonel Wharton, the commander of this post.

Very respectfully, your obedient servant,

J. W. ABERT,

Lieut. Corps Topographical Engineers.

To Colonel J. J. Abert,

Chief Corps Top. Engineers.

Notes concerning the minerals and fossils, collected by Lieutenant J. W. Abert, while engaged in the geographical examination of New Mexico, by J. W. Bailey, professor of chemistry, mineralogy, and geology, at the United States Military Academy.

Cretaceous fossils from Poblazon, west of the Rocky mountains, latitude 35° 13′, longitude 107° 02′, strata dipping west.

The fossils from Poblazon consist of gigantic hippurites,* casts from the cells of several species of ammonites, valves of inocerimus, identical with a species figured in Frémont's report, plate IV., fig. 3,† casts of small univalves and bivalves too imperfect for determination; and teeth of sharks.

These fossils prove that the strata from which they were taken, belong to the cretacious formation. The existence of vast beds of this formation on the *east* side of the Rocky mountains, and extending from the Upper Missouri to Texas, is well known. The occurrence of the same formation on the western side of the primary axis of the Rocky mountains is quite interesting.

The dip of the rocks at Poblazon is to the west, or from the Rocky mountains; and this proves that these mountains have been elevated since the deposit of the cretaceous beds. It is, therefore, probable that the cretaceous beds on both sides of the Rocky mountains were made by the same ocean.

Bituminous coal, and coal fossils.

From the Raton, east of the Rocky mountains, latitude 37° 15′, longitude 104° 35′, from the strata dipping east.

The fossils accompanying the well characterised bituminous coal from the Raton, consists chiefly of large ovoid leaves, with very distinct branching veins, which consequently must have belonged to decotyledonous plants of comparatively modern origin. It is an interesting fact that no ferns, or other of the common coal fossils were found. It is thus established beyond a doubt, that the deposit of coal at the Raton is not the equivalent of the great coal formation of the United States, but is of a much more recent date, perhaps corresponding to the "Brora" coal.

The existence of coal on the eastern flank of the Rocky mountains has been noticed before, and some have supposed that it indicated the western outcrop of the great carboniferous formations of of the western States; this view, however, is not confirmed by the deposit at the Raton, which is decidedly a far more recent formation.

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* These are the remarkable specimens composed of parallel plates covered with hexagonal reticulations.

† Frémont's specimens were found on the east side of the Rocky mountains, latitude 39°, longitude 105°.

Fossil Woods.

There are two specimens of these; one a semi-opalised fragment from Wolf mountain, near the Spanish peaks, the other a silicious pebble from St. Ana. Neither of them retain the original structure in sufficient perfection for determination of its character by the microscope.

Non-fossiliferous rocks.

The most interesting specimens of rocks were the following:

1st. From the cañon of Vegas: A fragment of well characterized granite, and another of mica slate.

2d. San Miguel: A reddish decomposing granite.

3d. Purgatory valley: A black slate.

4th. Cañon Infierno: A compact hornblendic mass, with red specks, probably a trap rock.

5th. West of the Rio Puerco: "A white clay, used for white-washing."

This is a calcareous, rather coarse grained mass, with occasional grains of silicious sand and pebbles; it effervesces briskly with acids, and tastes strongly of lime after being heated by the blow-pipe. It contains no polythalamia.

6th. Top of little knools near "Rio Vermejo:" In a state of decomposition, but resembles an indurated sand stone.

Minerals.

The minerals are mostly of little interest. The ores are not rich in themselves, nor can they be relied upon to determine the value of the mines. The gold ores from "Viejo Real," "Tuerto," &c., consist chiefly of cellular quartz, discolored by oxide of iron, and rarely showing any particles of gold. The copper ores are chiefly chrysocolla and green carbonate of copper. Below are given the true names of some specimens, to which were attached the labels copied in the first column.

1st. Smoky quartz from Padillas: A nodule of obsidian; fuses easily by the blow-pipe.

2d. Salt from the Laguna near Chilili: Two layers, one of chloride of sodium, the other of sulphate of magnesia.

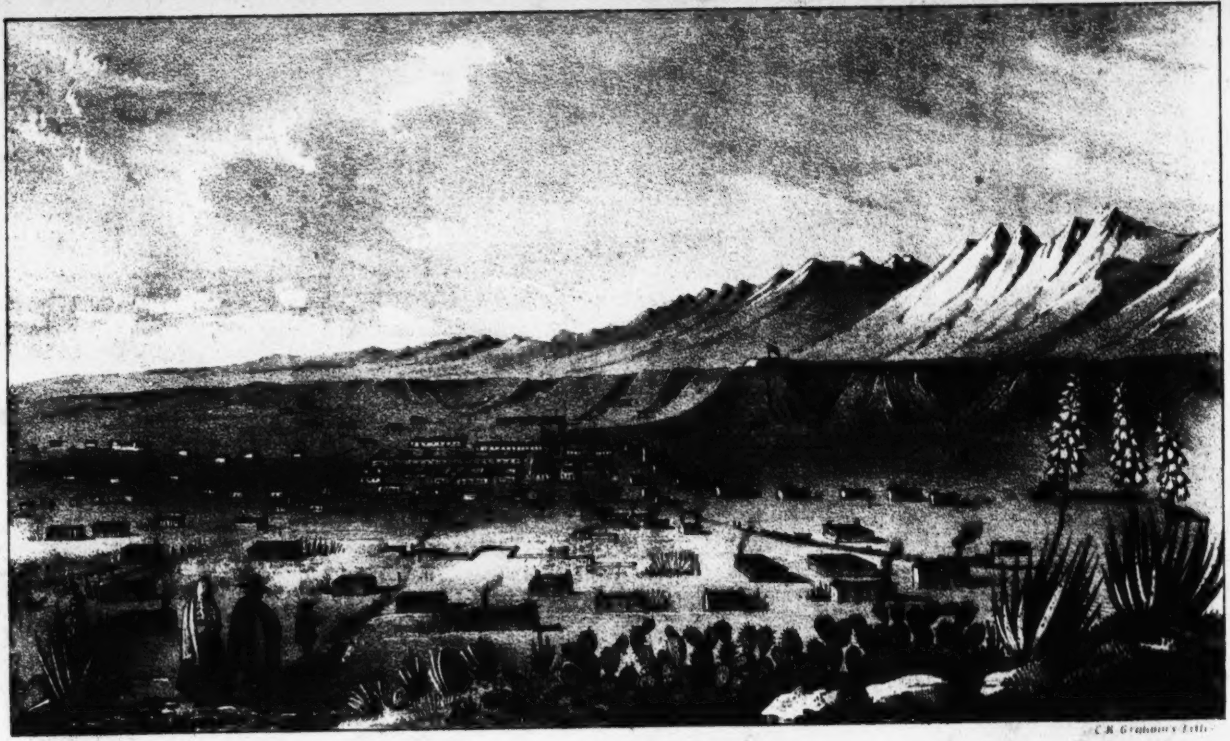
3d. Blossom of the gold, Tuerto: Quartz in small elongated prisms.

4th. From between Rito and Rio Puerco: A nodule of white compact gypsum.

5th. From between Robinson and Ciboletta: Small plates of selenite.

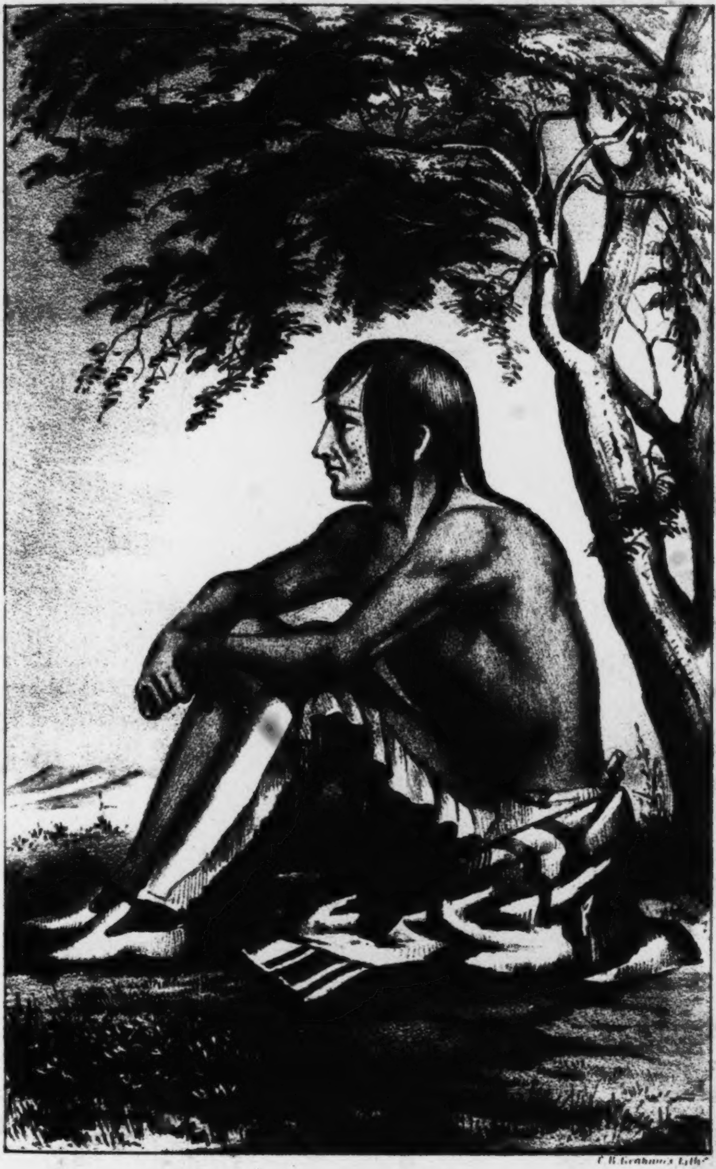
6th. Belyn abundant in all the sierras: Handsome plates of silinite.

7th. Fossil moss from the gold mine at "Viejo Real:" Dendritic infiltrations of oxide of iron.



C.K. Graham's Lith.

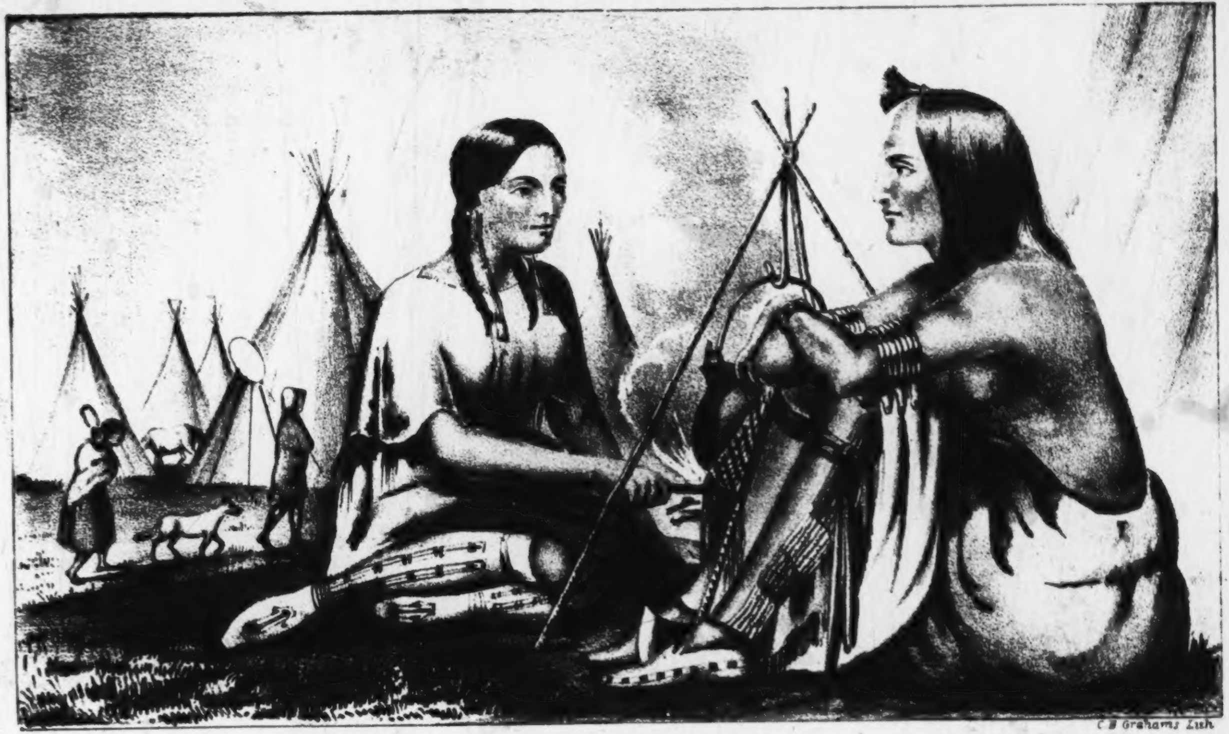
LA CIUDAD DE SANTA FÉ



C. B. Graham's Lith.

O CUM-WHO-WUST.

Chief of the Cheyennes

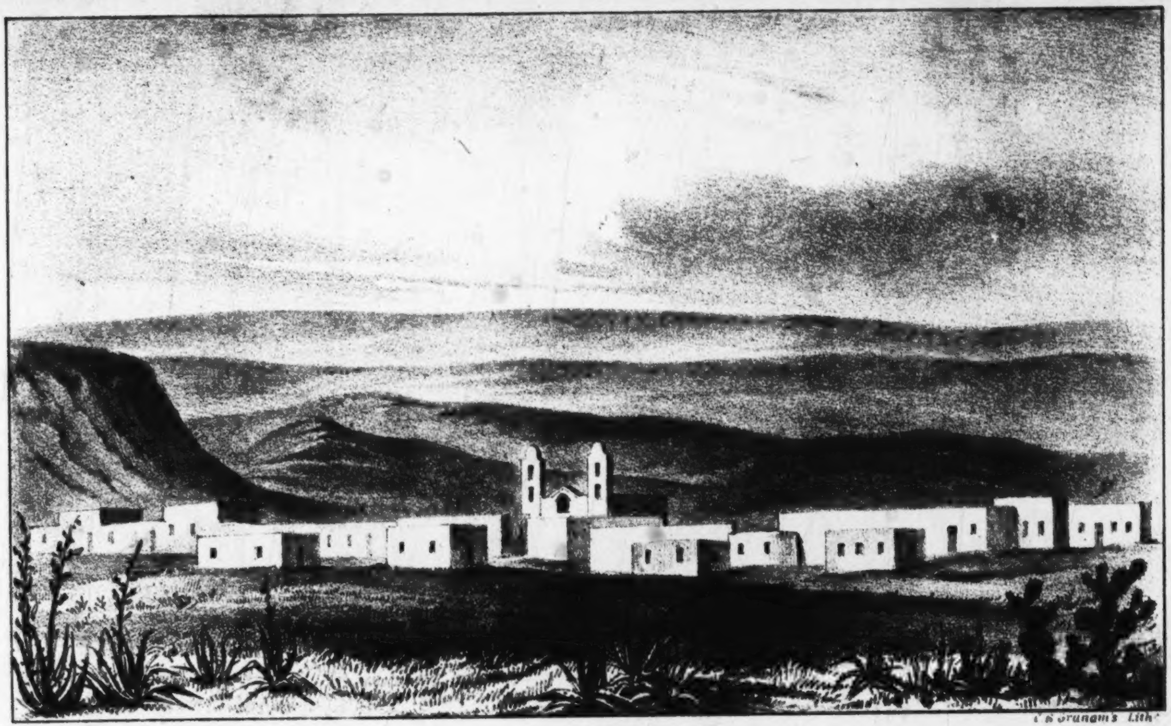


C B Grahams Lith

OLD BARKS SON AH-MAH NAH-CO AND SQUAW.

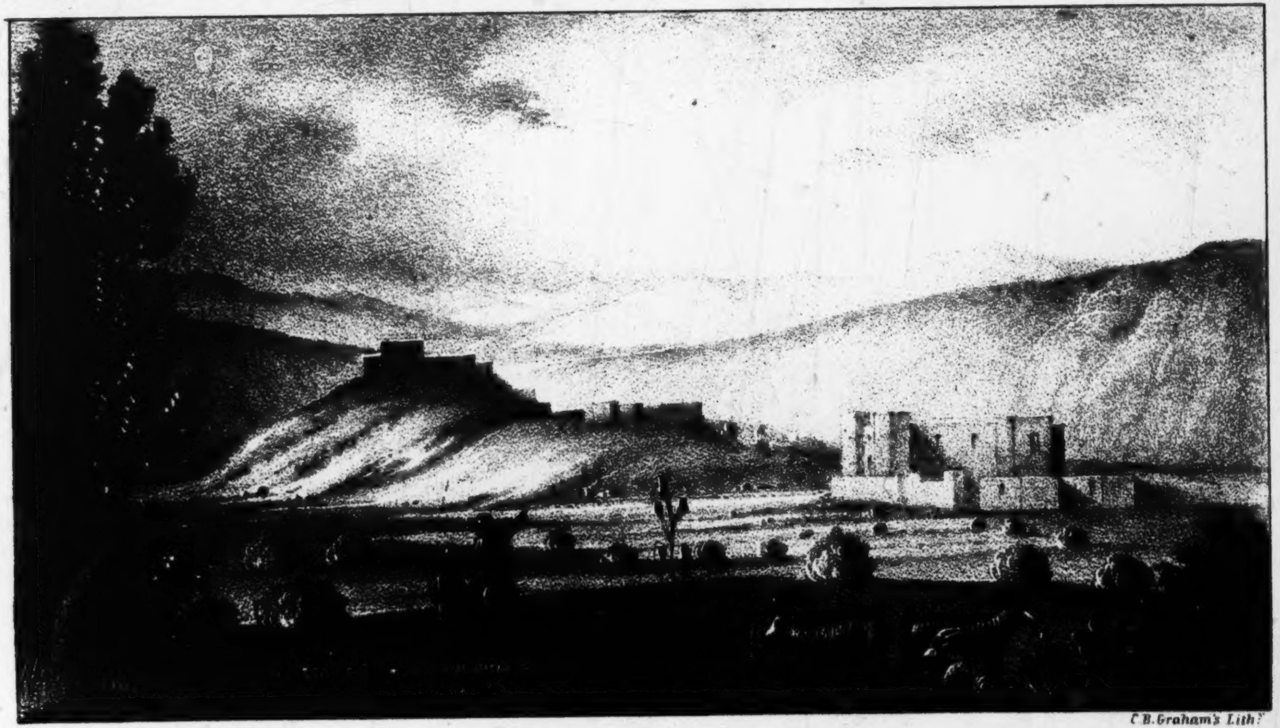
C. B. Graham's Lith^y

LAS CUMBRES ESPANOLAS.



C B Graham's Lith.

SAN MIGUEL.

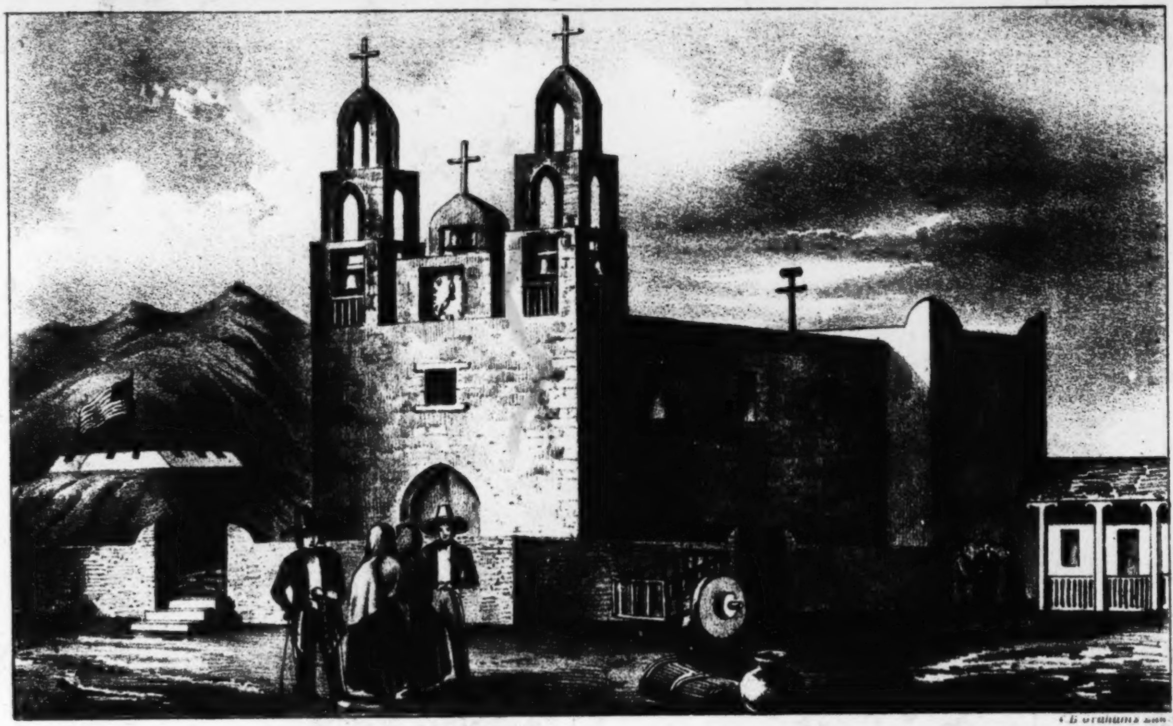


C.B. Graham's Lith.

RUINS OF PECOS.

C.B. Graham's Lith^{y}

GOLD M^{ts} NEAR TUERTO.

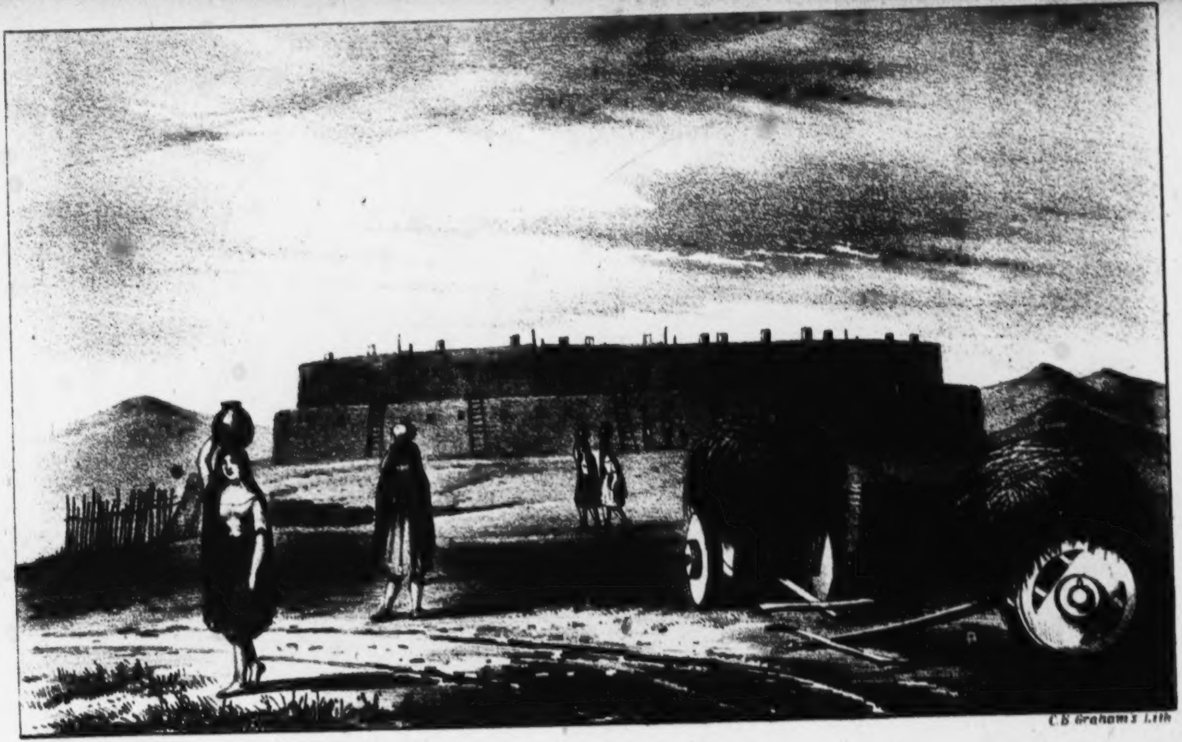


C. B. Graham's Lith.

FORT MARCY and the PARROQUIA SANTA FÉ.

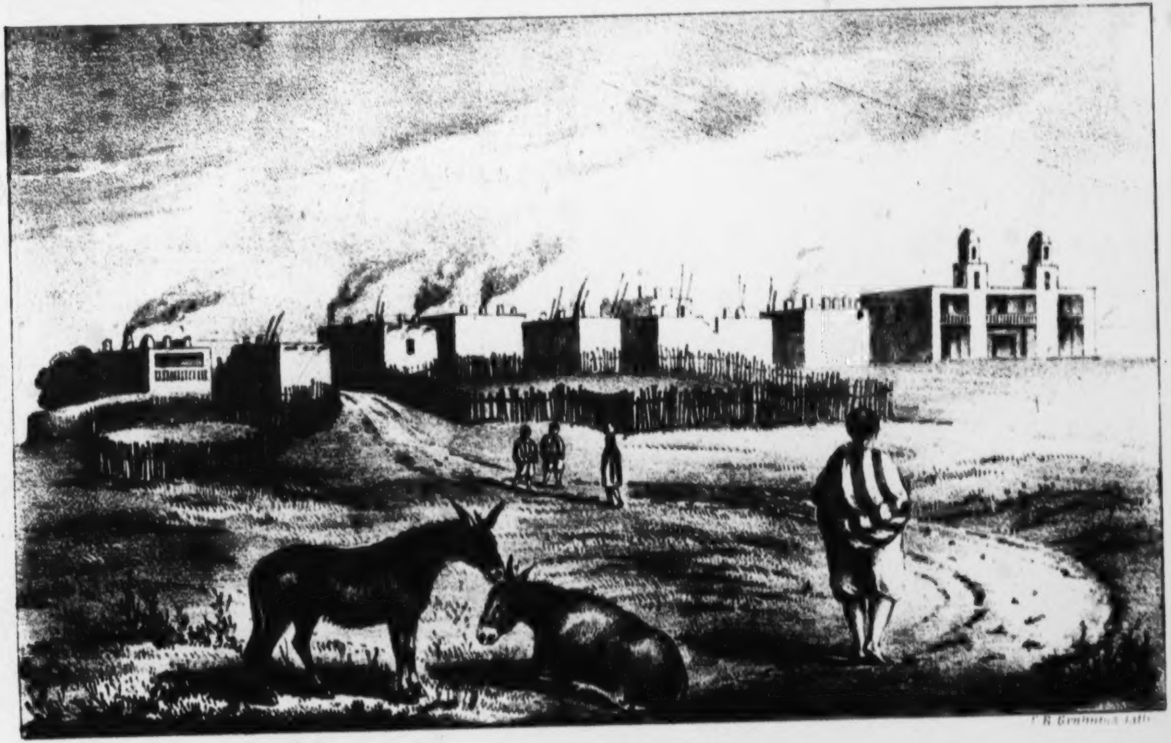
C. B. Graham's Lithy

SAN FELIPPE



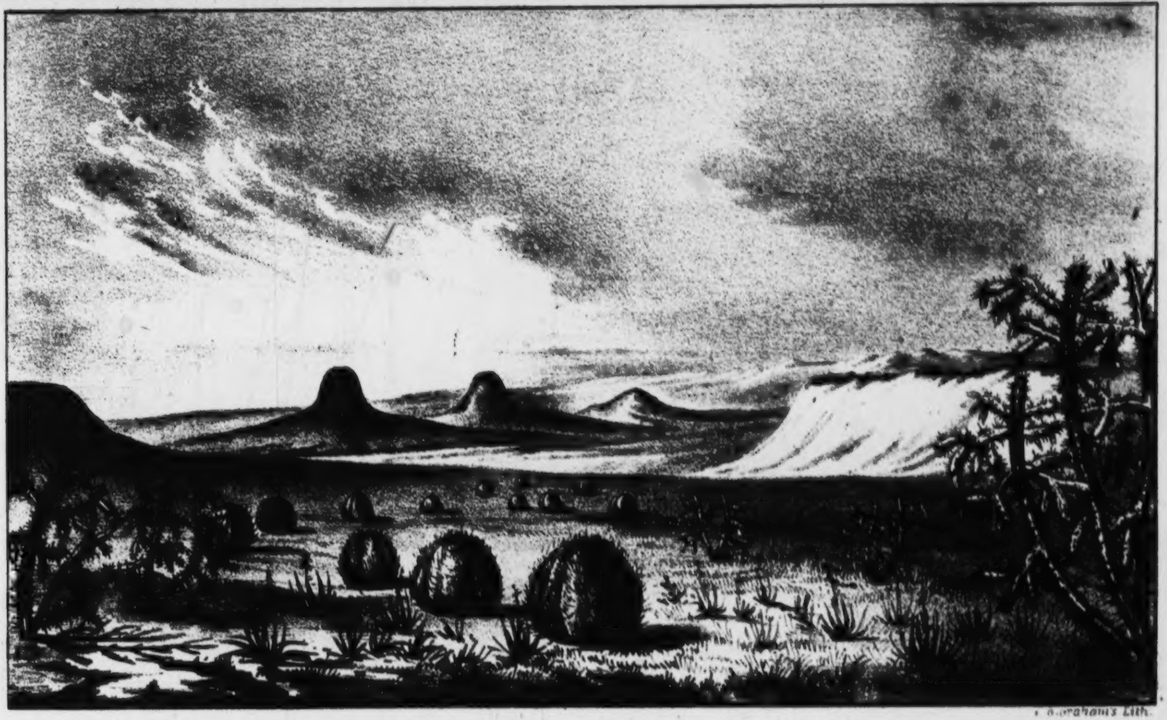
C.B Graham's Lith

PUEBLO DE SANTO DOMINGO.



C B Graham's Lith

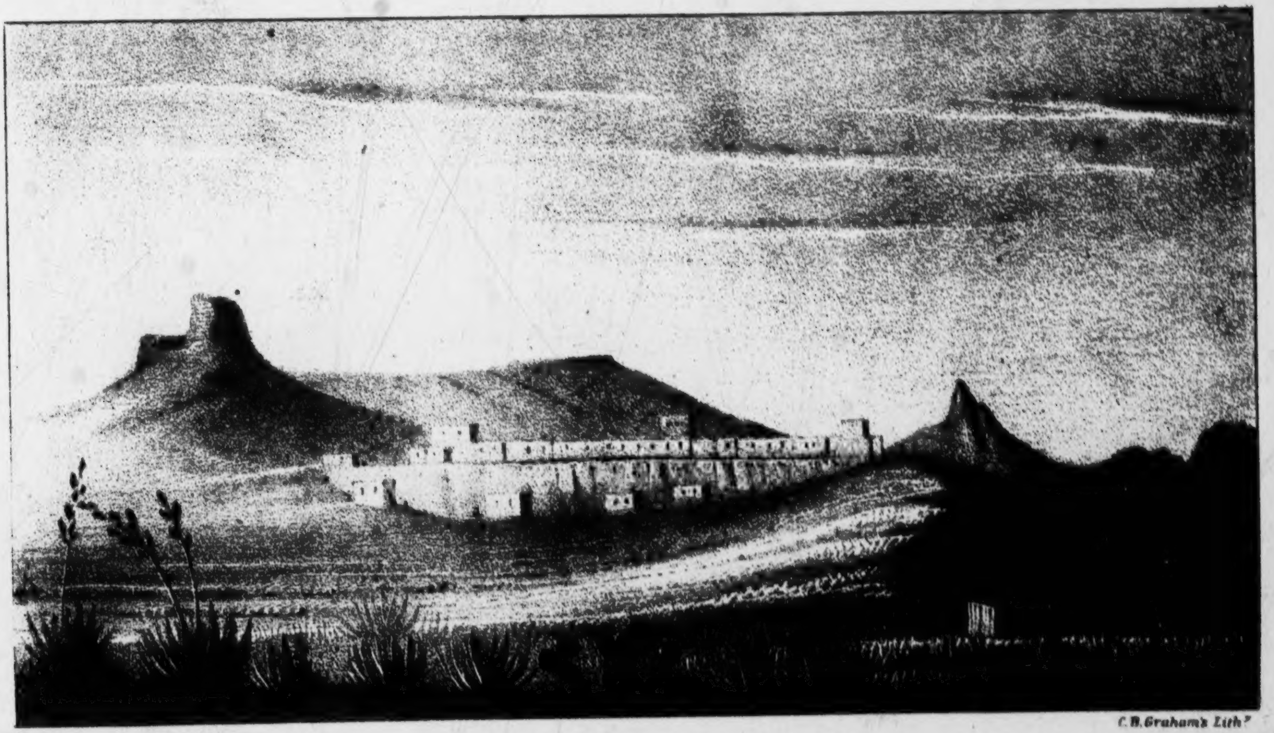
EL PUEBLO DE SANTA ANA.



C. B. Graham's Lith.

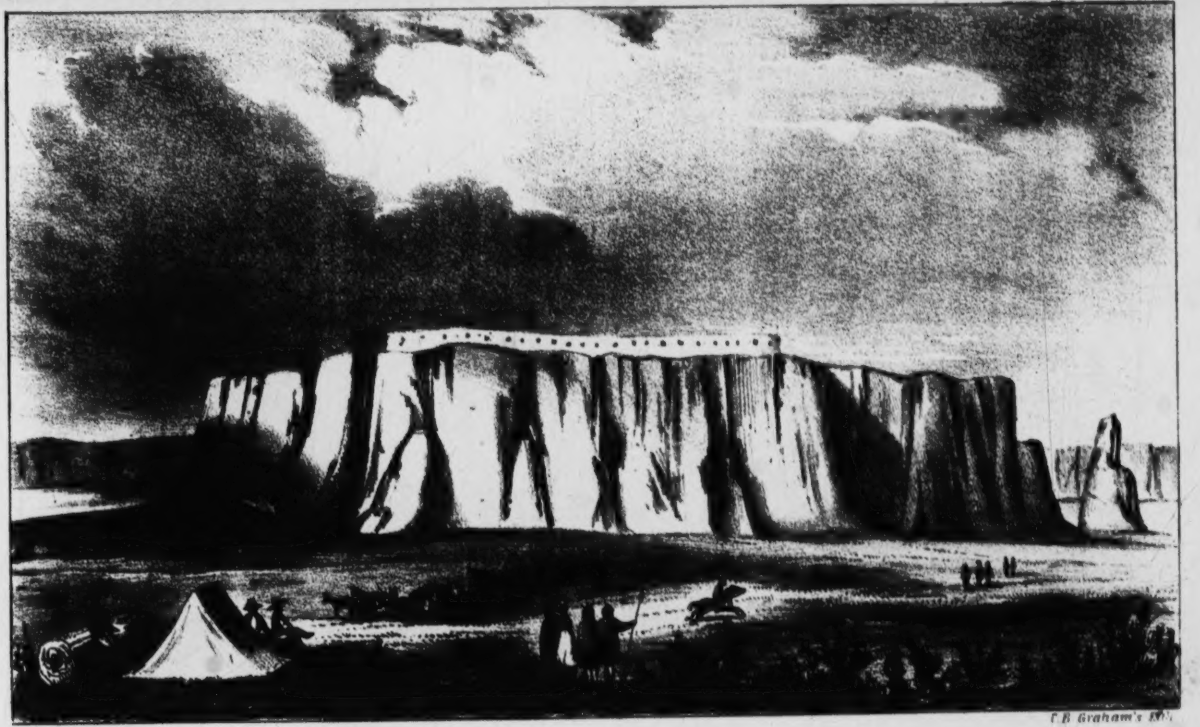
VIEW OF VOLCANIC PEAKS, LOOKING NORTH.

Lat. 35° 13. Lon. 107° 20'



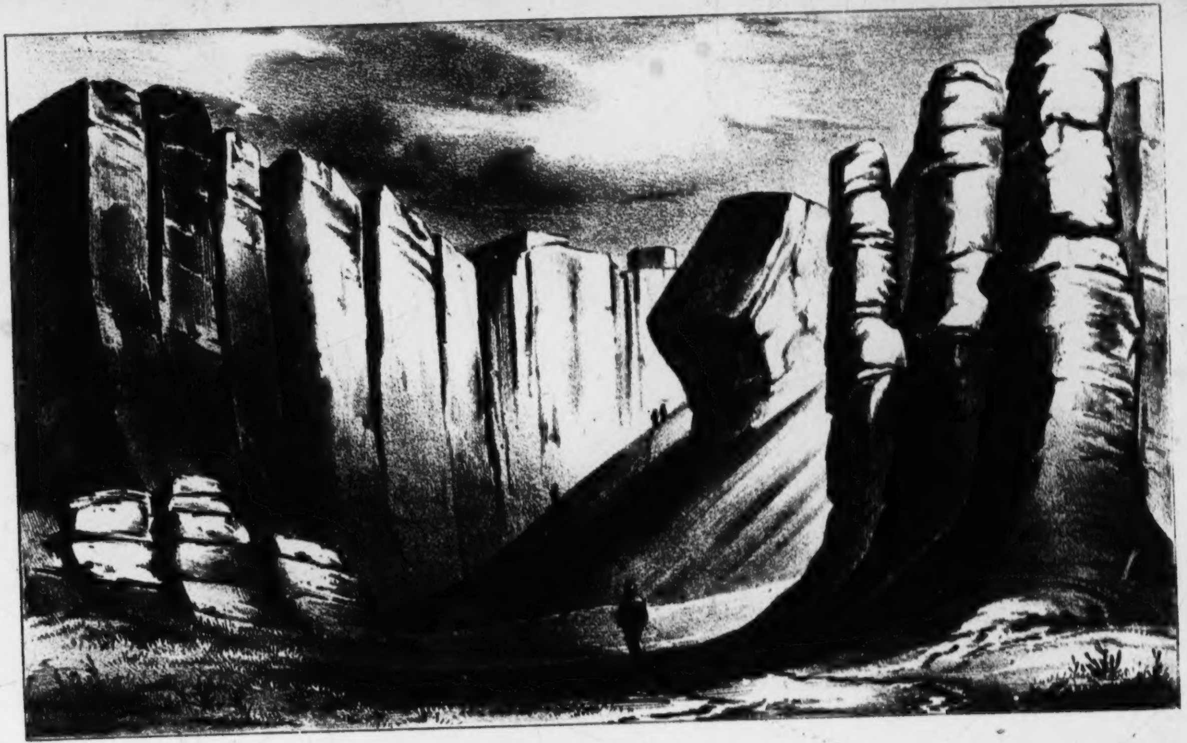
C.B. Graham's Lith.ʳ

MOQUINO.



C B Graham's Lith.

ACOMA N°.1



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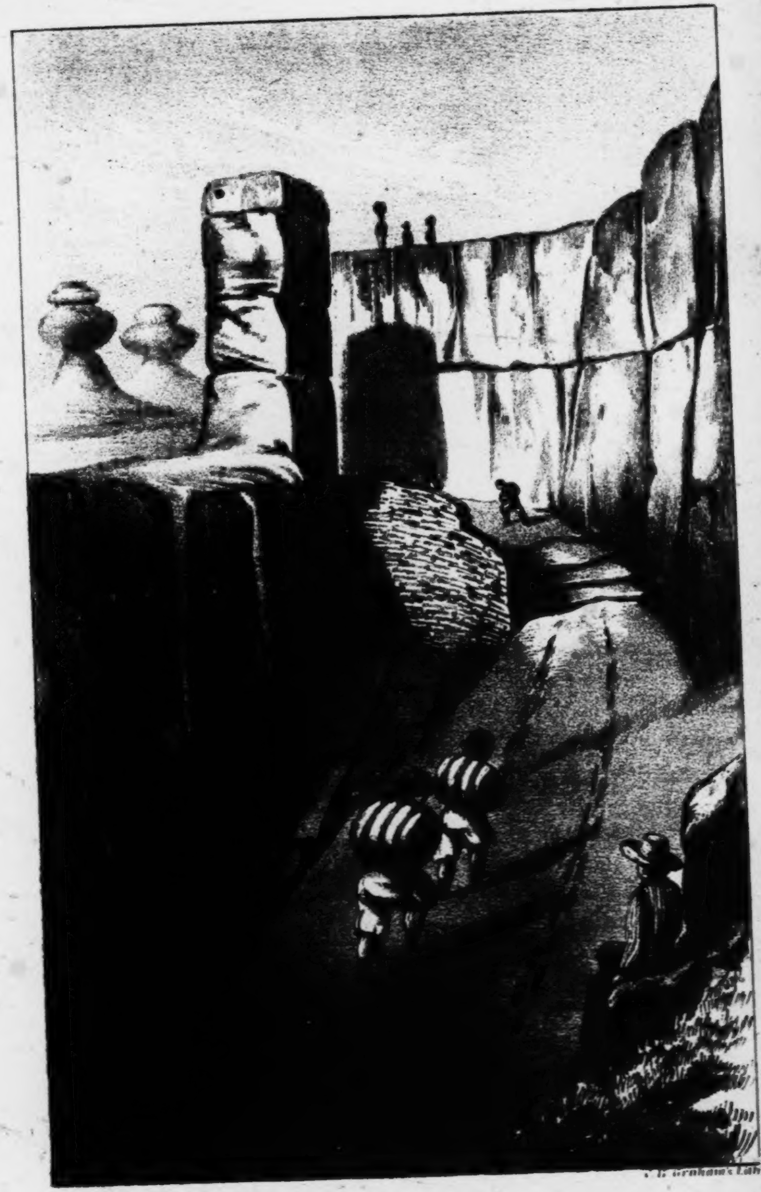


C. B. Graham's Lith

ACOMA No. 3.

C. B. Graham's Lith.

VIEW NEAR RITO.

C B Graham's lith

EL CAÑON INFIERNO.

C.B. Graham's Lithogr.

RUINS OF ABÓ.

C.B. Graham's Lithog.

BOSQUE DEL APACHE.

C. B. Graham's Lith.

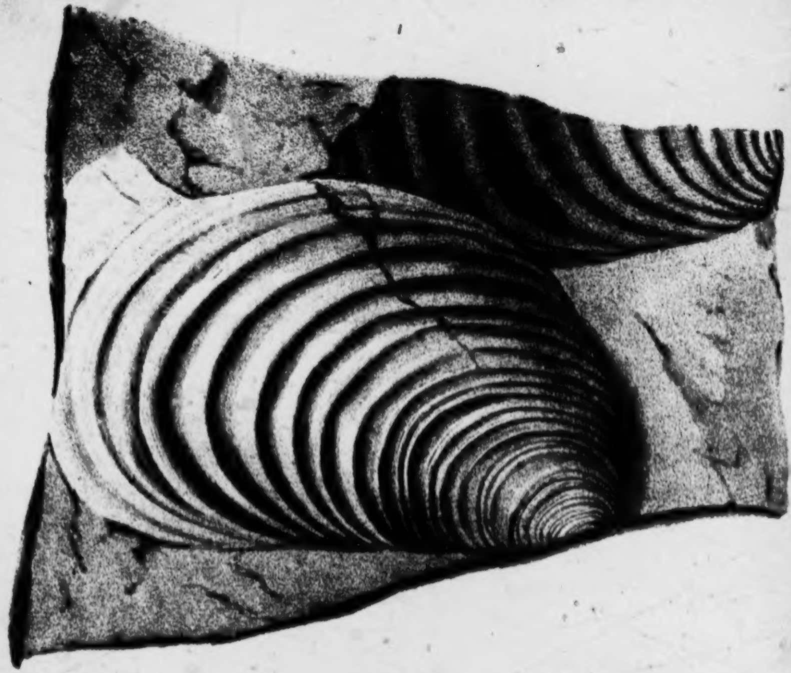
VALVERDE

C. H. Graham Lith.

Fossils from the coal beds of the Raton. Lat. 30°15' Lon. 104°35'

For locality see map of Canadian river by Lieut. Abert & Peck. 1845

1



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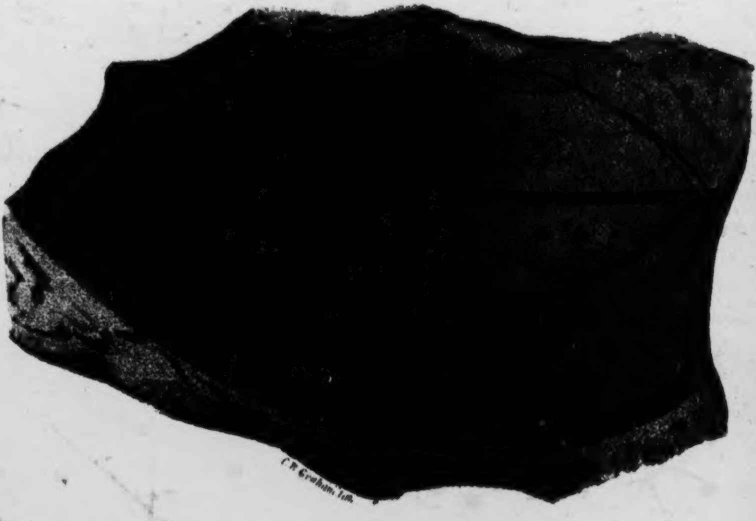
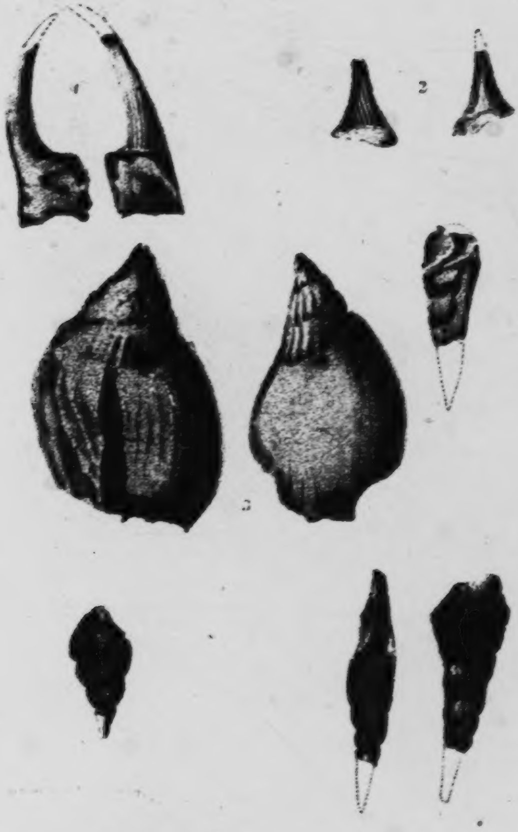


C.B. Graham lith.

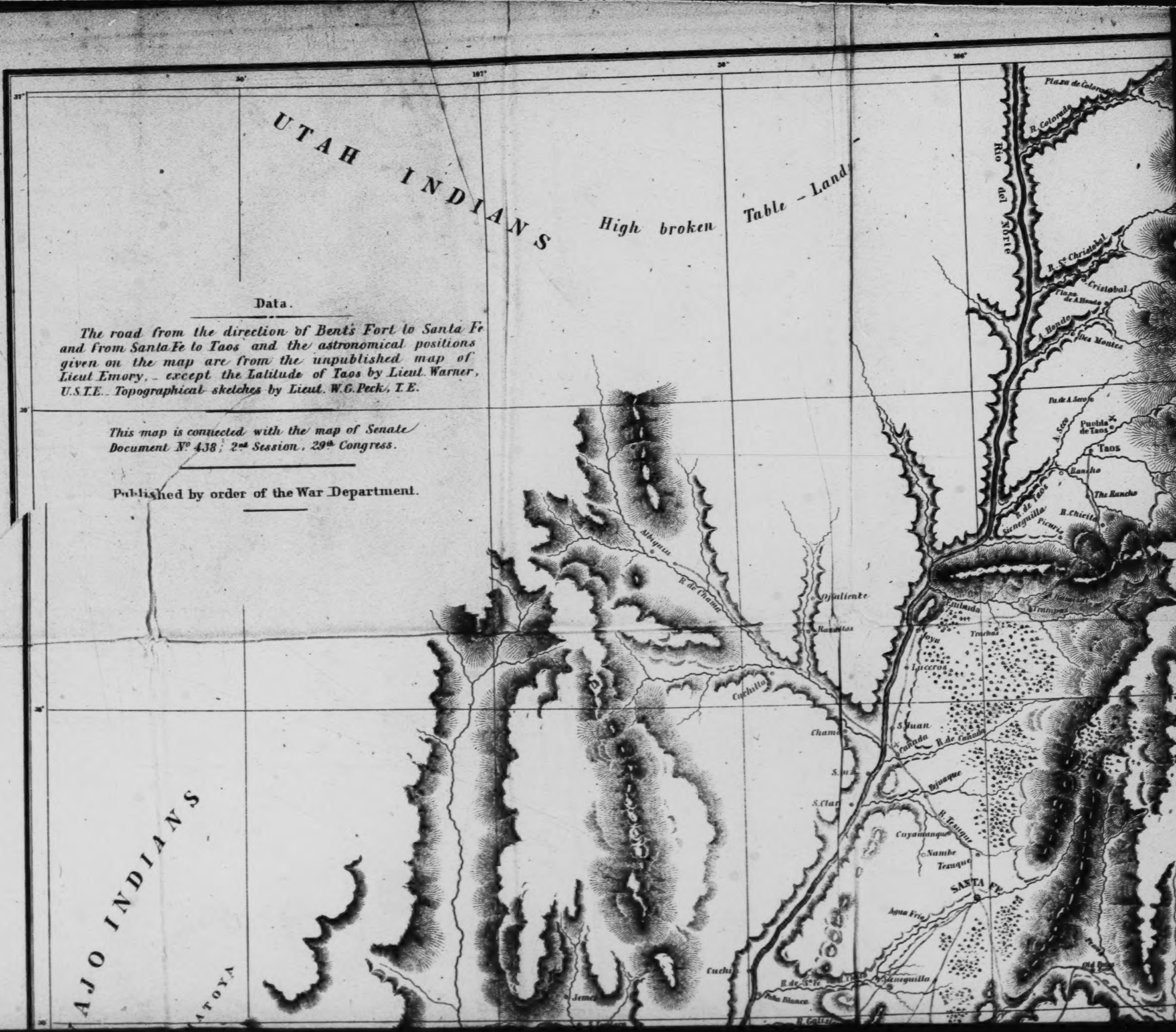
1 Inoceramus _ Rio Timpa. Lat 30° 41' Lon 104° 07'

2 Fossil from the coal bed of the Raton Cañon.



1 & 2 Sharks teeth from Poblazon
3. Fossils from Poblazon
4 Fossils from the lead mine at Tuerto

C. B. Graham, lith

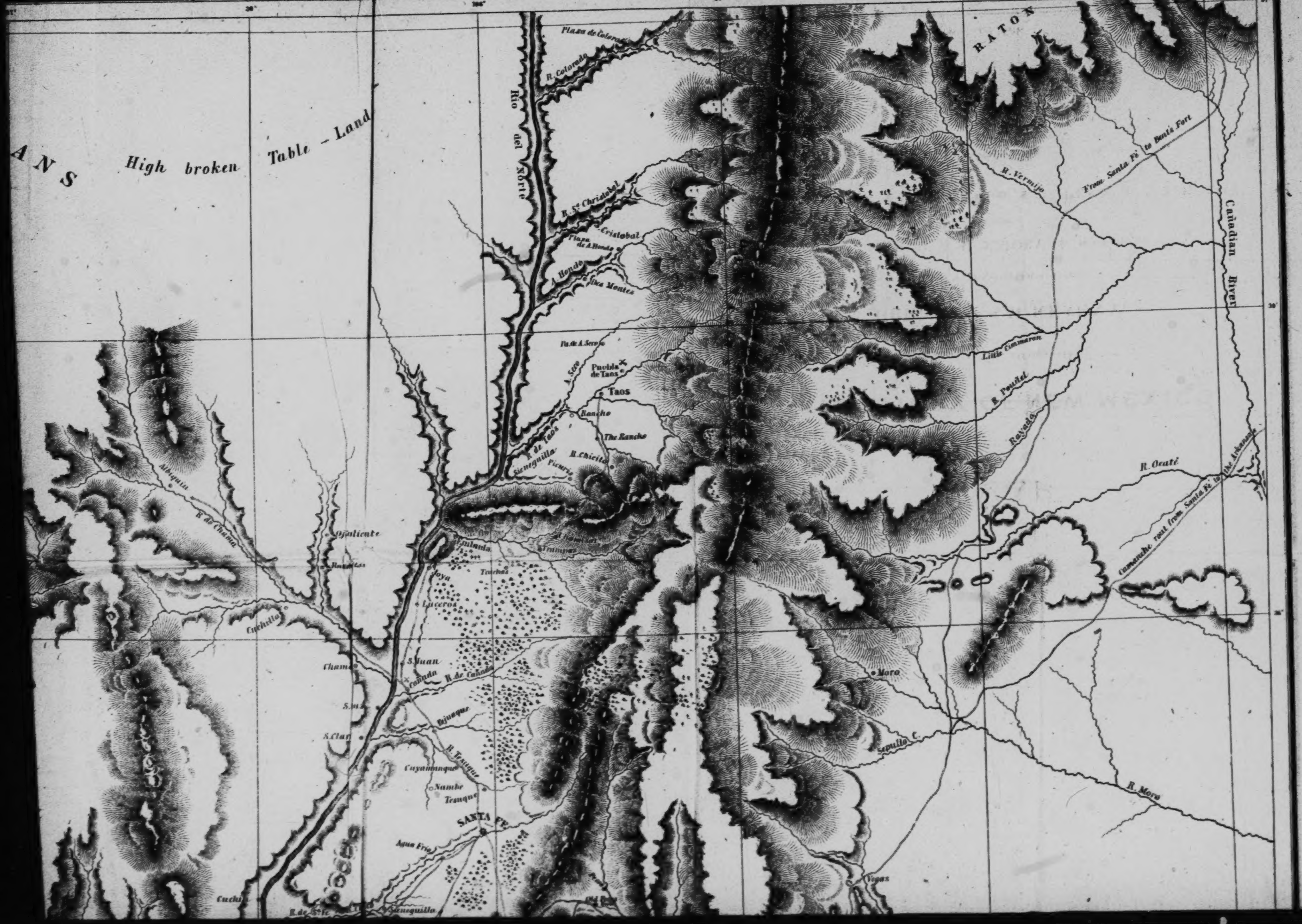


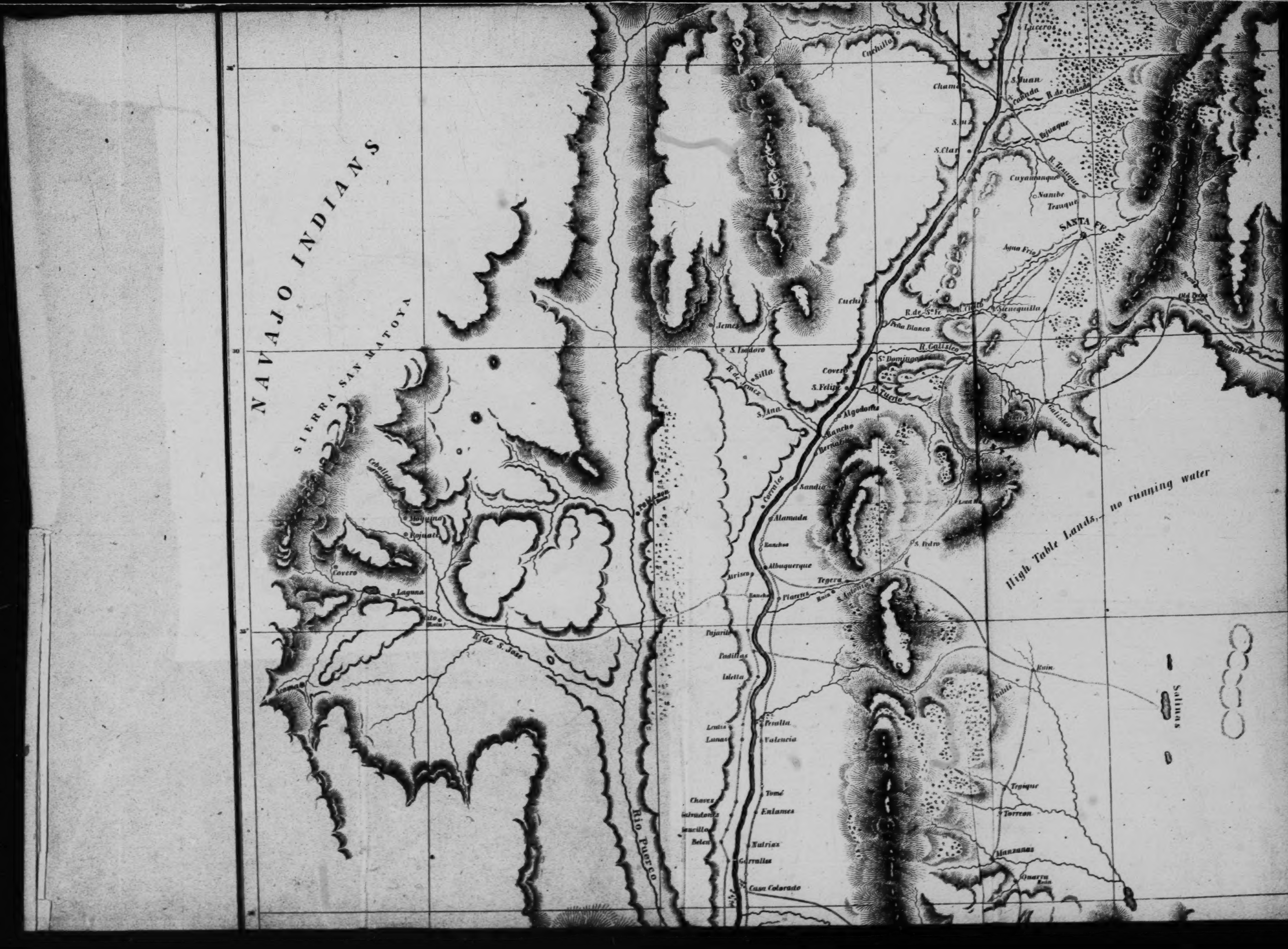
Data.

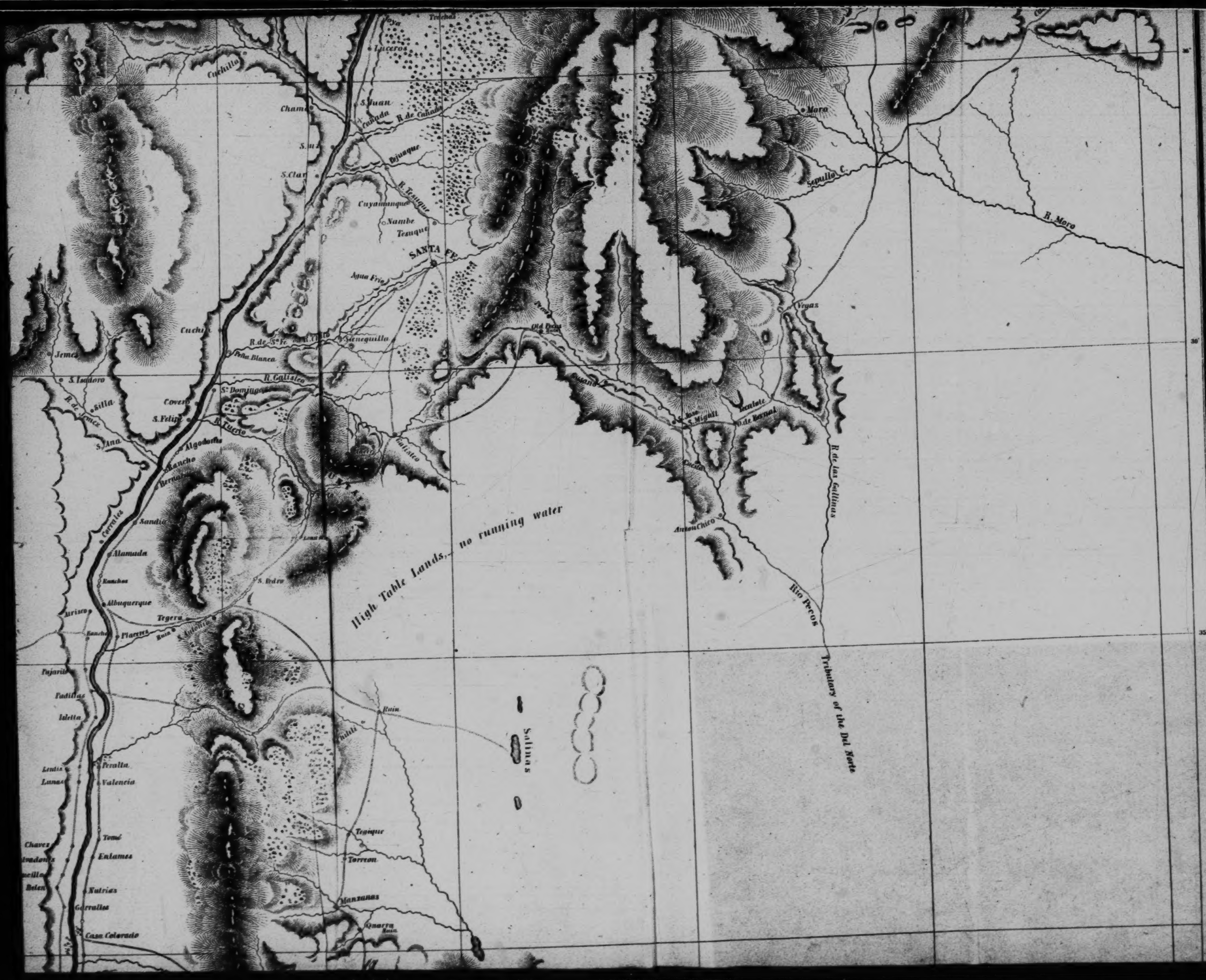
The road from the direction of Bent's Fort to Santa Fe and from Santa Fe to Taos and the astronomical positions given on the map are from the unpublished map of Lieut Emory, - except the Latitude of Taos by Lieut. Warner, U.S.T.E. - Topographical sketches by Lieut. W.G. Peck, T.E.

This map is connected with the map of Senate Document No. 438; 2nd Session, 29th Congress.

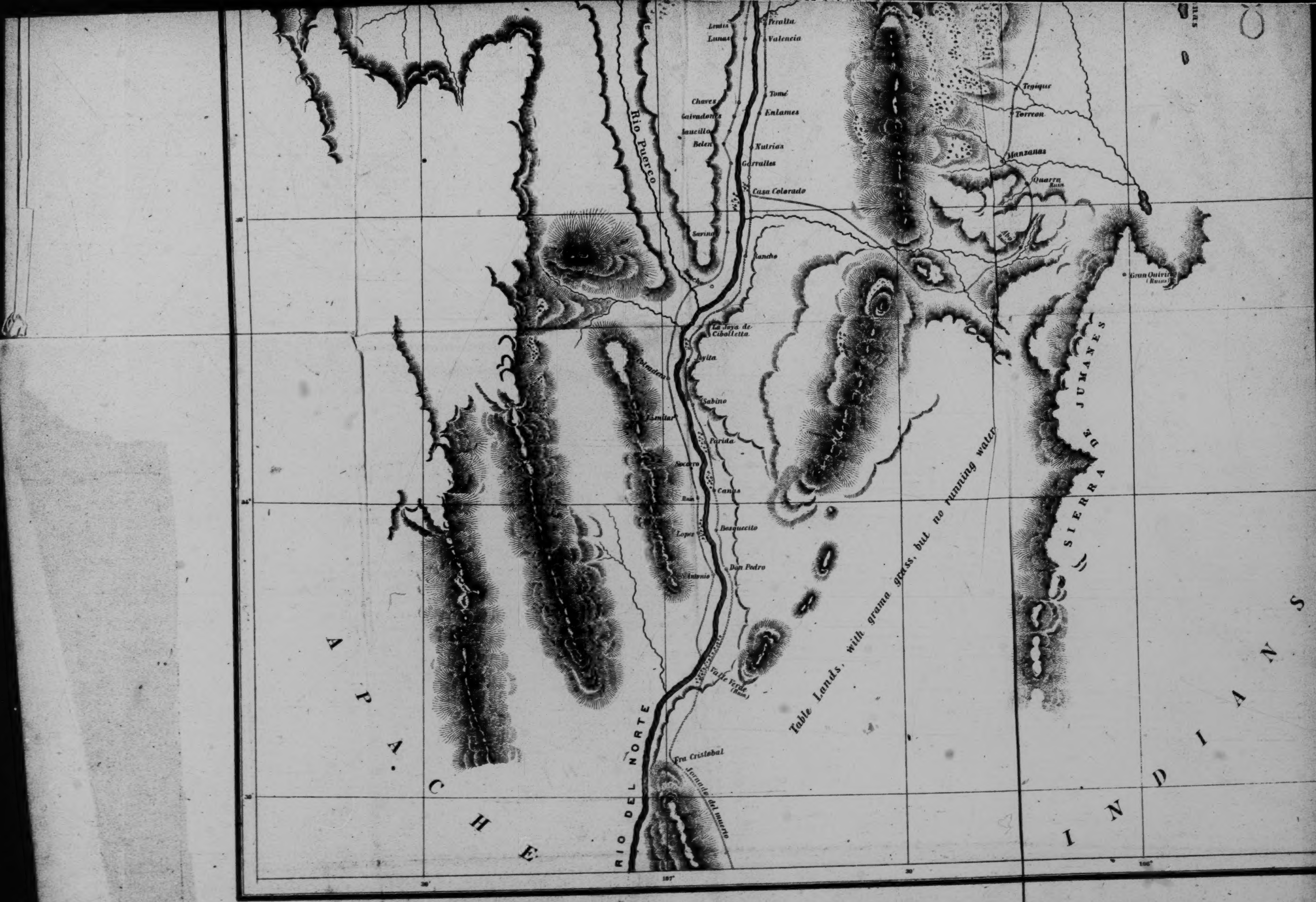
Published by order of the War Department.

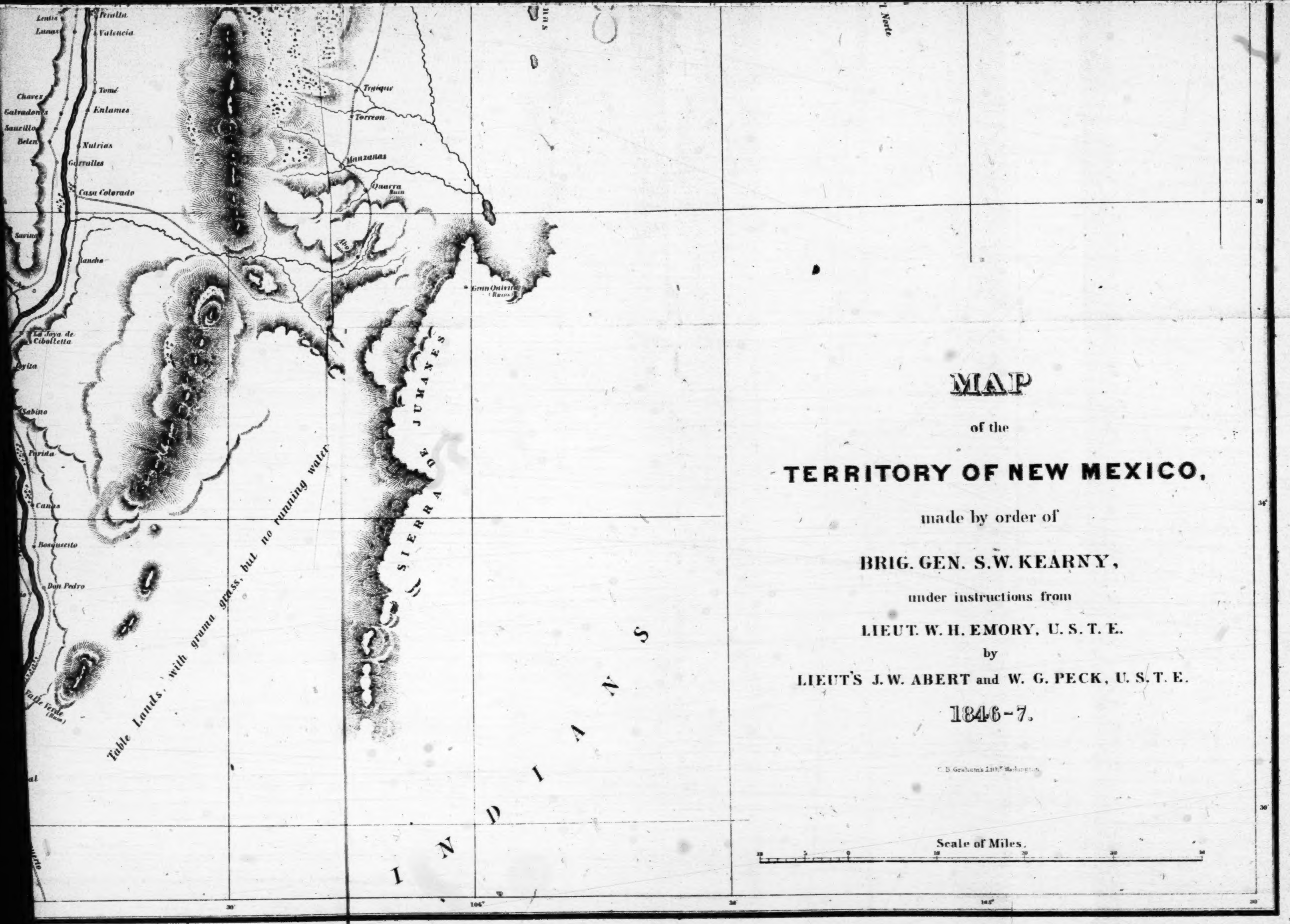

31°
30'
106°
30'
105°
30'
37°
30'
36°
ANS
High broken Table-Land
Plaza de Colorado
R. Colorado
Rio del Norte
RATON
R. Sn. Christobal
S. Cristobal
Plaza de A. Hondo
A. Hondo
Dos Montes
R. Vermijo
From Santa Fé to Bent's Fort
Cañadian River
Pa. de A. Seco
A. Seco
Pueblo de Taos
Taos
Rancho
The Rancho
R. de Taos
Sieneguilla
Picuris
R. Chicito
Little Cimmaron
R. Poñel
Rayado
R. Ocaté
Camanche rout from Santa Fé to the Arkansas
Abiquiu
R. de Chama
Ojo Caliente
Rancitas
Embudo
Trampas
Joya
Truchas
Luceros
Cuchillo
Chama
S. Juan
Cañada
R. de Cañada
Moro
Tesuque
S. Clar
Sepullo C.
R. Tesuque
Cayamanque
Nambe
Tesuque
R. Moro
SANTA FE
Agua Fria
Vegas
Cuchillo
R. de Sta. Fe
Sieneguilla


NAVAJO INDIANS
SIERRA SAN MATOYA
Cebolletta
Moquino
Pojuate
Covero
Laguna
Pito (Ruin)
R. de S. Jose
Acoma
Rio Puerco
Cuchilla
Chama
S. Juan
Cañada
R. de Cañada
Luceros
S. Clara
Pojuaque
R. Tesuque
Cuyamanque
Nambe
Tesuque
SANTA FE
Agua Fria
Pecos
Old Pecos
Cuchillo
R. de Sta Fe
Cienequilla
Peña Blanca
Jemez
S. Isidoro
R. de Jemez
Silla
S. Ana
R. Galisteo
Sto Domingo
Covero
S. Felipe
R. Tuerto
Galisteo
Algodones
Rancho
Bernalillo
Corrales
Sandia
Alamada
Ranchos
Albuquerque
Atrisco
Rancho
Placeres
Tegera
S. Antonio
Ruin
S. Pedro
High Table Lands, — no running water
Pajarito
Padillas
Isletta
Lentis
Lunas
Peralta
Valencia
Tomé
Chavez
Enlames
Sencillo
Belen
Nutrias
Gorrallas
Casa Colorado
Chilili
Ruin
Salinas
Tajique
Torreon
Manzanas
Quarra Ruin



Oya
Trechas
Laceros
Cuchillo
Chama
S. Juan
Cañada
R. de Cañada
Pojuaque
S. Clar
R. Tesuque
Cuyamunque
Nambe
Tesuque
SANTA FE
Agua Fria
Moro
Sepullo C.
R. Moro
Vegas
Pecos
Old Pecos Ruin
Jemes
R. de Sta Fe
Sieneguilla
Peña Blanca
S. Isadoro
R. Galisteo
Sto Domingo
Silla
R. de Jemes
Covero
S. Felipe
R. Tuerto
S. Ana
Algodones
Rancho
Berrial
Galisteo
S. Jose
S. Miguel
Tecolote
O. de Bernal
R. de las Gallinas
Cuesta
Anton Chico
Corrales
Sandia
Alamada
Ranchos
S. Pedro
Albuquerque
Atrisco
Tegera
Rancho
Placeres
Ruin
S. Antonita
High Table Lands, no running water
Rio Pecos
Tributary of the Del Norte
Pajarito
Padillas
Isletta
Ruin
Chilili
Salinas
Lentis
Lunas
Peralta
Valencia
Chaves
Tomé
Enlames
Tegique
Torreon
Belen
Nutrias
Garralles
Manzanas
Casa Colorado
Quarra Ruin
30'
35'


Lentis
Lunas
Peralta
Valencia
Chaves
Gaivadonis
Saucillo
Belen
Tomé
Enlames
Nutrias
Garralles
Casa Colorado
Rio Puerco
Savina
Rancho
Tegique
Torreon
Manzanas
Quarra
Ruin
Abo
Ruin
Gran Quivira
(Ruins)
La Joya de
Cibolletta
Sevilleta
Polvadera
Sabino
Lemitar
Parida
Socorro
Canas
Ruin
Bosquecito
Lopez
Don Pedro
S. Antonio
Valle Verde
(Ruin)
Fra Cristobal
Jornada del muerto
Table Lands, with grama grass, but no running water
SIERRA DE JUMANES
APACHE
INDIANS
RIO DEL NORTE
30'
34°
30'
30'
107°
30'
106°



MAP

of the

TERRITORY OF NEW MEXICO,

made by order of

BRIG. GEN. S. W. KEARNY,

under instructions from

LIEUT. W. H. EMORY, U. S. T. E.

by

LIEUT'S J. W. ABERT and W. G. PECK, U. S. T. E.

1846-7.

C. B. Graham's Lith? Washington